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AMERICAN ARTISAN and Hardware Record

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THE SUPER-SMOKELESS FURNACE

Officially Tested and Approved by Chief City Smoke
Inspector of Cincinnati

City of Cincinnati

"At the smoke test made by members of this department and others, it was demonstrated that it was practically impossible to make the furnace emit dense smoke, although it was being fired with the highest volatile coal which is brought into the City of Cincinnati."

GORDON D. ROWE
Chief Smoke Inspector

EVERY heating man and home owner familiar with the SUPER-SMOKELESS Furnace recommends it most enthusiastically. It actually burns smoke and soot as fuel, requires less coal than usual and has exceptional heating capacity for size of firepot.

The demand for SUPER-SMOKELESS Furnaces increases with every installation and demonstration. It meets a long-felt need for a clean furnace and is now successfully operating throughout the soft coal sections.

SUPER-SMOKELESS Furnaces are made in all sizes of the Utica Heater Company's SUPERIOR Pipe and NEW IDEA Pipeless Furnaces. They are highly efficient and extremely durable. Experienced heating men should investigate the Super-Smokeless Dealer Proposition in unassigned territories.

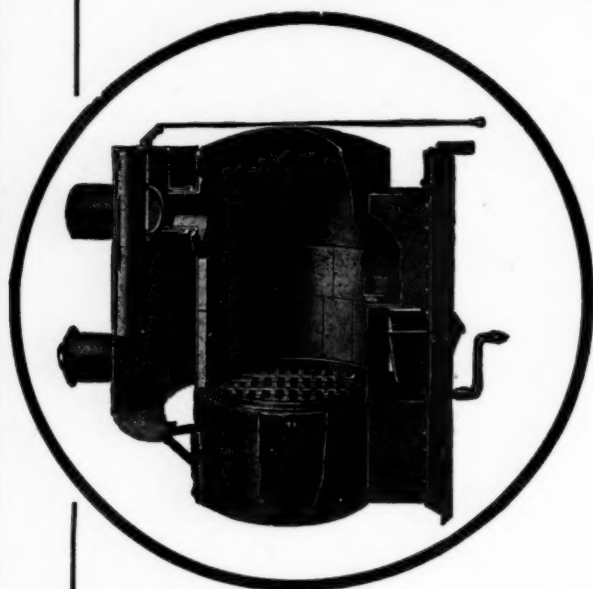
Utica Heater Company
UTICA, N. Y.

218-220 West Kinzie Street

CHICAGO, ILL.



Head and Shoulders Above The Crowd



The SEAMLESS welded steel body of the Waterbury. Marked fuel economy is attained by the Waterbury's large combustion dome, straight-side fire-pot, and long down-draft fire travel, as shown in cut.

SELL the furnace which you can guarantee to give CLEAN heat at less cost—the furnace which will place your business head and shoulders above the crowd. Sell

THE WATERBURY SEAMLESS FURNACE PIPE OR PIPELESS

Note the word **Seamless**. There are no seams to crack or loosen in the Waterbury. It is permanently gas and dust-tight; delivers CLEAN, moist warm air evenly in every room. Entire construction of highest grade materials.

The Waterbury is delighting customers wherever it is sold. It relieves you of price competition and builds immense good will for your business. Write for our money-making Agency Proposition NOW!

The Waterman-Waterbury Co.
1121 N. E. Jackson St. Minneapolis, Minn.

Are You A Leader? in the Furnace Business?

Jake Stebing' Makes Big Money.



Send Postal for Catalog

A postcard will bring you our well-illustrated catalog with many good selling ideas. Write for it today.

Jake Stebing of Auburn, Indiana, is a man to be envied. His sales in good years and bad, are always more than any of his competitors in the furnace business. He is a real leader. And yet, he gets better prices for his jobs than the other fellows. Of course, he handles

FRONT RANK TRADE NAME REGISTERED STEEL FURNACES

The first Front Rank in Auburn was sold in 1920. Now there are over a hundred Front Rank boosters. Jake Stebing had the right idea—he chose the best furnace, pushed it with our assistance, and now has a paying business. You may have the same opportunity.

Shipments Made From St. Louis, Mo., Lincoln, Neb.,
Richmond, Ind. and Pittsburgh, Pa.

HAYNES-LANGENBERG MFG. CO., 4545 N. Euclid Ave., St. Louis, Mo.



"Good Bye! We're Going Home—Front Rank is too Hot!"

Founded 1880 by Daniel Stern

Thoroughly Covers
the Hardware, Stove,
Sheet Metal, and
Warm Air Heating and
Ventilating Interests

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WHAT SATISFACTION DO YOU GET OUT OF YOUR BUSINESS?

Some men are in business only to make money.

Some of these render efficient service, because they have learned—from their own experience or that of others—that efficient service always pays well in cash returns.

But the really efficient business man is the one who derives actual pleasure in rendering good service.

And when something goes wrong, as it sometimes will do even in the best organized store or shop, he does not hem or haw, but does his level best to make it right with the customer.

In the publishing of business papers there is the same demarcation.

Some go along for years, rendering a routine service.

Their service to subscribers and advertisers is of just enough value to keep those who make it possible for them to stay in business.

There is little or no sign of real thought nor of an ideal behind their policy—if indeed they have any.

And as a result, they never have any real influence among their subscribers or their advertisers.

On the other hand, there are publications like American Artisan, Hardware Age, Sheet Metal Worker, Michigan Tradesman, Dry Goods Economist, and a limited number of other business papers, which really stand for and work for the improvement of conditions

in the various fields which they "represent."

They have a real editorial policy.

At times they may step on somebody's toes, but when they do it is without malice and only for the purpose of pointing out and remedying, if possible, some error that may cause considerable trouble if permitted to pass without attention.

And with their good work comes also the satisfaction of knowing that it is being appreciated, for after all the average man is always glad to give recognition and praise for good work.

For example, there is hardly a day without some letter giving expression of appreciation of the vitality and pertinency of our editorials.

One prominent group of manufacturers requested permission to reprint a recent editorial and send it to their customers—more than twenty thousand copies.

Another letter came from the secretary of a trade organization, asking for fifteen copies of another editorial to be sent to members of his "local"—to wake them up, as he put it.

Nearly every week requests come in for reprints running into the thousands of the real merchandising stories that are published in our news columns.

All of which naturally makes us feel good—

But which also makes everyone who has a part in making American Artisan a good business paper do his very best to make it the best possible publication in its field.

Random Notes and Sketches.

By Sidney Arnold

Usually the fact that a big building is to be constructed has meant a lot of discomfort for people who have to walk past the place. In rainy weather it meant walking in mud and in the street. When the sun shone the street was full of dust and dirt in front of the new building.

But the owners of the Strauss Building, on Jackson and Michigan Boulevards in Chicago, have set a new fashion which is worthy of favorable comment.

Both on the Jackson and the Michigan sides the sidewalk has been covered with a frame structure, which in itself is entitled to approval because of its fine appearance, and here the public may pass through without running the risk of being hit by a hot rivet or splashed with mortar or in any other way being molested or inconvenienced.

It is to be hoped that this fashion will be adopted by other companies or men who may have buildings constructed, the work on which will take a long time.

For the present, however, the S. W. Strauss Company is to be recommended for thus demonstrating its willingness to pay some regard to the convenience of others.

* * *

Mark Honeywell, who makes automatic heat regulators and fans for warm air furnaces, has a colored man working around his home in Wabash, Indiana.

Sam was relating a harrowing experience that he had just passed through. He had seen a ghost.

"Ah jes' come out of de cowshed," he said, "an' Ah had a pail o' milk in mah hand. Den Ah hears a noise by de side of de road an' de ghost rushes out."

"Did you shake with fright, Sam?" asked one of his dusky audience.

"Ah don't know what Ah shook wid. Ah hain't sayin' for suttin Ah

shook at all. But when Ah got home Ah foun' de milk gone, an' two pounds o' butter in de pail."

* * *

R. B. Strong, Vice-president of the Homer Furnace Company, made a flying trip by auto from Coldwater, Michigan, to some place in Missouri a short time ago. Getting caught in a bad storm one evening he decided to stop at a small town over night and was shown to a room which looked clean enough,



R. B. Strong

but in which the mattress proved to be anything but comfortable.

For hours the weary traveler tried to lie around the bumps. Finally he gave up, rose, dressed and went downstairs.

"Landlord," he said to the sleepy individual who was nodding behind a desk, "did you ever hear of the straw that broke the camel's back?"

"Naw," grumbled the landlord.

"Well, if you just make a thorough search through that bed of mine upstairs, you'll find it."

Many of the boys who have attended the Michigan and Indiana Sheet Metal Conventions will recognize the picture herewith. It is so characteristic of "R. B." that I

asked him to pose for me one day and here it is.

* * *

Whoever it was that wrote the following paragraphs which appeared in the *Front Rank Spirit*, which is a messenger of good will and good ideas from the Haynes-Langenberg Manufacturing Company, he said a good-sized mouthful:

"The so-called present day unrest is a mental hazard which can only be overcome by every man and woman in this good old U. S. A. getting down to work and attending to his or her own business. Work is a safety valve that, while it consumes energy, it has a habit of creating in the inner man that feeling of well-being and comradeship that eliminates selfishness and a disregard for the rights of others.

"Men and women with little to do have a habit of tackling things outside of their capacity to understand and analyze. They criticize but offer no solution. The best that can be said of them is that they are like a toothless dog. They bark but can't bite, and yet they warn the world that there's somebody around. Maybe life with its hardships is a more fitting punishment than chloroform to these."

* * *

Little Georgie had been along the street window-shopping and returned full of curiosity.

"Mamma, is a music store where you buy music?"

"Yes, my son."

"And a hardware store is where you buy hardware?"

"Certainly. Get to the point and spring the gag!"

"Well, I just thought I'd go down the street and buy an army at the army store."

* * *

In browsing through a volume of Kipling's verse, I ran across this verse the other day and copied it down. It surely fits the editor of our Notes and Queries Department:

"I had six honest serving men
They taught me all I knew,
Their names are What and Why
and When
And How and Where and Who."

Charles H. Ireland, Successful Business Man and Great Orator, Eulogizes Old Guard.

His Address Has Many Beautiful Passages and Much Wholesome Advice for Any Man.

CHARLES H. IRELAND is a typical gentleman of the South. He is also a successful business man. Furthermore, he is an orator of no mean ability, and when he rises to speak—in a convention, at a formal dinner or at a lunch party—those who know him settle down in their chairs for a season of wit, poetry, pathos, and wonderful word painting, and they are never disappointed.

And his address to the Old Guard Southern Hardware Salesmen is a work of art, fully up to the high standard he has set for himself and which we who know him have cause to expect from him.

This address is so full of homely truths and sound advice, put forth without the usual smugness of the professional moralizer, that we are glad to pass it on to our readers:

Travelers

We shall ever owe a great deal to the Jews. The first traveling man I have been able to discover had the euphonious name of Jacob. As far as the record reveals, Jacob was by nature a trader or salesman—he knew how to present his goods so attractively that the buyer became possessed with the belief that to fail to have what Jacob had to sell was a matter of life and death. Jacob possessed this quality, not from any school of salesmanship or experience, but it was simply a matter of native ability—a dangerous possession—for its tendency is to either make one careless or else, if uncontrolled, selfish and grasping in disposition. The latter seems to have been the effect in his case, for he traded a mess of turnip salad for all the real estate and family possessions of his brother, Esau. Do you wonder that this line of conduct brought disappointment and sorrow? It has ever been one of the fundamental and immutable laws of the commercial world that the trickster shall not prosper in the end. "Seest thou a man tricky in his dealings? Mark his goings, for in the end ye shall seek him, but shall not find him."

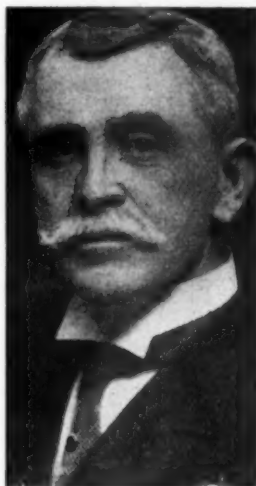
The marvel of it all is this: That the world has been so slow to appreciate this truth.

But I want you to know that there has been a wonderful renaissance in these later years. Things that were once respectable would not longer be tolerated in the commercial world. I am so glad that this scarlet thread of personal integrity runs through the whole warp of commercial, present day intercourse. And it is with no small degree of pride that I would name as one of the most efficient agencies in bringing about this

high spirit of commercial integrity that organization known as the OLD GUARD. Having been closely associated with those who first conceived it, and having been intimately identified with each member of that organization, I speak advisedly when I say that no finer type of men, no broader-gauged or more intelligent merchants, no set of men with a higher sense of honor, no group of men who have kept daily before them the desire to deal fairly and honorably with their competitors, their firms for whom they traveled, and at the same time retained the confidence and friendship of all their customers in this Southland, than does the membership of the OLD GUARD.

"And Jacob went out from Beersheba and went toward Haran."

And Jacob being over taken by night, went to his room to sleep. May I be



Charles H. Ireland.

permitted to elaborate for a few minutes on that experience—this traveling man's first night away from home and all that he holds dear, in a strange place trying to forget his heart hunger in slumber? Jacob was not the only one who has felt that his pillow was a stone nor the bed on which he lay was as unyielding as the earth, while the slats felt like ridges of clods underneath his tired body. If the X-ray could have been turned on the mental processes which have passed in the lonely rooms of the new traveling man's first night away from home on the road, Jacob's experience would not have one whit of interest beyond that of many a poor fellow who has gone on his way next morning with smiling countenance and a bleeding heart.

Nor was Jacob the only one who has had dreams. Out of the hazy mists of sleepy dreams shadowy faces have come—sometimes of a weeping woman, sick and tired, yet trying to smile and appear brave before the one called to leave home; sometimes of an invalid child crying out in the darkness for Daddy; and sometimes the cherub face and chubby arms of the youngest infant come

out of the gloaming of the fast fading light in that room of the traveling man's first night away from home. Nor was the towering ladder, reaching from earth to heaven, reserved for Jacob's experience alone. Many is the first night traveling man who has gone on his further pilgrimage refreshed, rejuvenated, inspired by the visions that came in his dreams that first night away from home.

But happy—yea, thrice happy—is he who in that hour has been able, as did Jacob, to attribute these visitations not to an indigestible supper or an involuntary fast, but on the other hand, could interpret it as a visit from God into his life, and in grateful appreciation make a covenant with God, committing the issues of his life's labor and its results into His keeping and acknowledging the doctrine of an overruling Providence by refusing to claim all of his life's effort as peculiarly his own, but rather chooses God as his partner and as such entitled to his portion of whatever life's effort might bring forth, and has then and there set up a pillar of unchanging character as a witness between him and God. And however hazy this covenant may have grown in his multifarious wanderings, he has still kept this memory as a Mizpah toward which his eyes often turned, in his better and more serious moods, with determined purpose to keep inviolate this agreement made back yonder in the impressive age of his life.

"And Jacob came unto Haran—"

"Now Rachel tended Laban's, her father's, flock; and Laban had two daughters, Leah and Rachel."

Jacob loved Rachel, but he married Leah.

Ah! how soon is burned into our experience that the unscrupulous trader always finds someone more unscrupulous than himself. Jacob out-traded Esau, but his Uncle Laban was able to teach him tricks such as he had never dreamed of.

It is remarkable also how retribution has a way of returning over the same road that unfair and tricky dealings go out upon. The blubbery Esau, bemoaning his bartered birthright, looks somewhat different from the brown-eyed Rachel, who had been substituted by weak-eyed Leah.

If the history of traveling men could be written in full detail, what a revelation there would be concerning the daughters of men who tended their father's business, while the new traveling man—alas! too often—forgot the tender eyes of the wife left at home by the enraptured vision of gazing into the beautiful eyes of the bewitching Rachel. Happy that man who in seven years—yea, in fourteen years—has learned the lesson of faithfulness and who can look into the clear depths of the wife's eyes at home and not flinch from the scrutiny, but can in all sincerity take those pale cheeks and tear-dimmed eyes, made so by faithful watching over his offspring, between his hands, hold up her chin and say with the ring of truth reverberating all through the chambers of his soul: "Wife, the temptations have been severe, but I'm back to you as true and loyal as the first day I started to be a traveling man."

"And Jacob turned his face towards Seir, his early home, and he came unto Mahanaim."

Back to the early home! How few of us ever reach it. The roads of life have such a peculiar way of twisting and turning. When we consider our own

lives it is not much trouble to understand how the Israelites could wander for forty years, not a hundred miles from the place they fully intended to go; nor was it strange that some of them never saw the place of their father's nativity, because they passed out before they ever found time in which to pay the intended visit.

Many's the man who has left the old village or town or neighborhood, thinking that nothing could ever prevent his returning to linger a while in these familiar surroundings. And yet as the bustling world increased its grip upon his time and attention he has passed and repassed near the getting-off point to return to his early home, but did not, each time promising to do it the next time; and so months lengthened into years. Now he has lost all desire to return. He'd be a stranger in the old place. The green mounds in the cemetery hold the forms of those whose counsel and advice inspired and stirred his dormant ambitions. The companions whom he knew as barefooted playmates have grown old and shrunken and gray. Not infrequently the quiet villages of our boyhood days have given place to hustling cities where commercial tides sweep along the streets. In the bustle of its commercial assemblage it is no longer the place of contemplation, but the Mahanaim—the place for strong men to contend for mastery. The place of our boyhood's early home has gone, never to be viewed by the eye of him to whom it has always seemed the dearest spot on earth.

Mahanaim—the place of assembling the hosts. In other words, the place where men meet, and who being conscious of the serious problems of life, stand ready to meet them, divested of all incumbrances, prepared for whatever the hour might demand—peace or war—with their wives and children in the background, right there to answer for them, even to contest in a death-grapple, if need be, with the foe, or to grasp the hand of an opponent in gladness if he comes in friendship. Conscious of the strength of real manhood, they stand ready for whatever may appear.

Do I, as I look into the faces of you men of this organization, see depicted upon your faces the indenture of conscious, brave, courageous, patriotic manhood? Have you come so far along the journey of life without proving your armor so as to know if it has any exposed joints? Have you come so far without testing the temper of the steel in your blades? Have you not in all these years looked in the eye of your chief adversary and let him see you were unafraid, but that you were your own master? Have you come all this way over life's dusty highway without having your thighs toughened and your muscles strengthened? Have you not awakened to the consciousness of life's highest satisfaction that you really and truly were a man? If not, you have my pity; if you have, you have my sincerest congratulations. Some of you who are here today I know have. There are others who have been denied the privilege of meeting with us today. They fell at their posts or else perished in the ranks where the fight waged hottest and fiercest, but none ever questioned their valor or gainsayed their courage. Their bivouac fires will burn tonight on the shores of that country where only brave, loyal and true men go. As I call the names of some of them I'm sure that any one who ever

knew them could ever think of them as other than MEN in the real sense of the word, and while possessing faults, for none of them were perfect, yet it would be unthinkable to connect any one of them with a mean, a sordid, a dishonest or dishonorable action.

I mention some of them today because I knew them all intimately, and I trust their memories may ever be as inspirations to those of you who remain behind as worthy of all emulation. Charles Wier, Percy Cauthorn, Dan Stucki, Fred Seeley, Bill Smith, John Hoen, Harry Lupton, Omah Mead, Louis New, Ed Ingalls, John Wilson—worthy members of the OLD GUARD—we salute you, our comrades in arms. As you gather in the company of the Hosts of God, your Mahanaim, that great gathering of just men, made perfect in God's own glorious company, my earnest prayer is that your true worth may have been so recorded as to grant you a worthy place amongst those who have lived, struggled and died in the effort to make this old world a better place in which to live.

I am reminded that there are two other members of your organization who ever since your formation have been present at all of your meetings and who expected to be present here today, but by reason of age and feebleness of body both are denied the great joy of mingling with their comrades and of giving and receiving the glad welcome, so common to you all. Their thoughts and hearts may be restrained by human limitations, but otherwise they are with us. One may seem to be in Richmond, Virginia, but the dearest wishes and most precious desires of Harry H. Beers are in this room today. Sitting alone on the post of restrained activity, he is denied the joy of your annual gathering, but through the ethereal ether, where distance is unknown and where friends touch hands with friends in close fellowship, we dispatch our messages of cheer and good will; and in the parlance of Rotary will proclaim—He was SOME man in his day. The other, our own dear Colonel Irby Bennett, debonair, courteous, boon companion, faithful friend—we miss him at every turn and breathe a continuous prayer for Heaven's richest blessings upon his heart and home, for we will not likely see his equal again in a long, long passing of the years.

"And Jacob passed over the stream Jabbok that night and there wrestled a man with Jacob until the breaking of the day."

Divine visitations and human need. How often the approach of God is clad in such unfamiliar garments that He often appears a stranger—yea, even in the hours of our greatest need and frequently when we are in close grapple with the infinite we are so cumbered with the flesh that we are unable to appreciate or comprehend the character of him with whom we wrestle.

"And as they wrestled the man said, 'Let me go, for the day breaketh.'"

But Jacob was in dead earnest; he had learned in the school of experience not to be a quitter. The man, finally, touched the hollow of Jacob's thigh and his thigh was lamed. Again he said, "Let me go, for the day breaketh," but the hours of meditation had done their work and Jacob, the trickster, had reached that point in life where the women and the little ones on the other side of the brook were dearer than life itself—yea! the thought of his sons walking on the road their father had trod

made him desperate. He would have been willing to have parted with all his questionable gains rather than let his wives know of his trickery or his sons walk in his footsteps. "Let me go." "I will not let thee go, except thou bless me." It was the cry of a soul in agony. The world with its allurements, its gold, its honors, are always attractive to the young and vigorous. And in proportion as we are selfish we find satisfaction in them. But there comes a time in every man's life when naught but God can satisfy him. Fortunate, indeed, are we if when those hours come in our lives we can do as did this old patriarch—decide to have it out with God, and in the retirement of our darkest night go out alone and face God in sincerity and truth, crying out, "Lord, Lord, I am a poor, weak, helpless, erring son of flesh, but I need Thee, Thee. Come into my life and bless me or I die." Somehow or other we'll find the man to wrestle with us, do we have the grit to wrestle it out with him.

"What is thy name?" What is thy name? I think this question must have been asked several times. What is thy name? Oh! memory—memory! How thy hidden secrets rise as voices to accuse us! How the sins of his youth, which he'd tried to forget, come back to him that night, as fresh as they were yesterday! The old home, the blind father, whom he had deceived; the mother who loved him better than any one else and who had grieved for her wayward boy; his great big, blubbery brother, shallow of mind and lustful of appetite, whom he had robbed! Memory! Memory! Is there no escape from your secret chamber? Is there no end to your records?

"What is thy name?"—alas! alas! "Jacob"—Supplanter! Ah! it's out at last—the confession. You know your own name. The dense shadows are being replaced with the gray mantle of the early dawn, already the adjacent peaks are being streaked with threads of light, heralding the oncoming of the king of day. In the dark valley of Jabbok the struggle has ceased, for one of the contestants lies faint and submissive before his antagonist, broken in spirit and contrite in heart. He lifts his eyes to his conqueror to hear his doom, which falls upon his ear. "Thy name shall no more be called Jacob, Supplanter (or Backslider), but Israel; for thou hast striven with God and with men and hast prevailed—as a Prince hast thou had influence with God."

Gentlemen, I'm not preaching to you—I'm just reciting the history of a traveling man—one of the first of the profession. I'm doing this because his experience is the common heritage of your calling. I want to testify as to the splendid manner in which some of your craft have used their opportunities. I recite this for the encouragement of any who may feel his helplessness. However bad you are, you are not so unpromising as was Jacob; however good you are, there are better things farther on. We are thankful to the Jews for Jacob—to the God of Jacob for Israel—and may you all experience the consciousness of being princes as you wrestle with the Messenger of the Most High.

Don't think that team-work means tandem—with the high stepper in front.

Monfort Makes a Boost Out of What Might Have Been Considered by Some to Be a Kick.

Mr. Banks' Letter Lays Down Several Good Rules for Selling and Installing Warm Air Furnaces.

IT TAKES a man with a lot of good sense to make a boost out of a kick.

In the *Chicago Tribune* there has recently appeared a series of articles in which stories of difficulties overcome were told, from which we quote one, as follows:

Charles Piez, President of the Link Belt Company, who shared in the shipping board tribulations, which Mr. Hurley and Mr. Lasker underwent, tells this one:

"Sir Francis Ley, of Derby, England, made an arrangement with the American malleable iron interests to manufacture malleable iron according to American methods in England. He met almost insuperable difficulties in introducing his product, because of the appearance of its fracture. Wrought iron, when broken, presents a silky fibrous appearance; steel and cast iron present crystalline fractures; while malleable iron shows a black amorphous center, surrounded by a narrow edge that looks like steel. To those unfamiliar with malleable iron, the fracture looked that of burnt iron, and they would have none of it.

"Just as failure stared him in the face, Sir Francis decided to make a virtue of necessity, and broadly advertised his product as 'Ley's Celebrated Black Heart Malleable Iron' and built up a large and enduring business on that inspiration."

And here is one that comes from R. B. Monfort, Secretary and General Manager of the Farquhar Furnace Company, the story being told in the "FarQuar Firebox," the instructive house organ of that Company.

We quote the entire article; first a statement from Mr. Monfort, then a letter from one of their customers and last some closing remarks by Mr. Monfort:

A Kick That's a Boost

One of the most helpful things in life is constructive criticism. Per-

fection is a noble aim, but it is well to remember that its attainment is always ahead of us. To arrive would be fatal for most humans.

The other day we received a letter from one of our dealers which we want to pass on to the entire FarQuar Organization. It is so good that to bury it in our files would be unfair to all of us.

The man who wrote it never dreamed it would be used as the subject of a bulletin, but his sincerity and kindliness of purpose were so obvious that we are glad to quote the letter in full:

"Received your bulletin of August 22. Very fine, but I have a suggestion to make to you. I notice in your bulletins you are continually talking furnace. I do not talk furnace any more. Anybody, even a boy from the feeble minded school, could install a furnace, but a man must be an engineer to install a heating plant.

"Our cheapest houses are furnished with furnaces. Why? Because they are the cheapest thing on the market. The cheapest furnace is invariably not a heating plant. We have on the market, you might say, thousands of different kinds of furnaces,—some good, some bad, and some indifferent. But to my mind, as an experienced heating engineer, there is only one furnace which should be called a heating plant. I do not exempt steam, hot water, or vapor, or any plan of heating which can possibly out rate the FarQuar heating plant.

"I think it would be a good campaign for the manufacturers to instruct their various agents in regard to installation. No set rule can be put down for the installing of a heating plant that will answer for all houses with different conditions as heating engineers must consider the surroundings of buildings which he intends to heat. If these are not studied, and the conditions of the

building not studied, he certainly will not meet with the results that he should obtain. I have ever been watchful in the surroundings and conditions and location of registers, conditions in and outside of the house, and the general make up and construction of the building.

"Warm air for the residence is undoubtedly a better proposition, considering health, economy of fuel and general results, than any other form of heating on the market. More of our business men who are selling furnaces should educate themselves up to the point of installing heating plants instead of being satisfied with merely installing a furnace and getting a man's money. He should go a little farther and remember that, after he has made the sale, he is duty bound to give the man a heating plant, and not consider the cost nor the amount agreed upon with his purchaser. That is one of the best advertisements he can have. It might be a little expensive advertising in some cases but in the long run, it is one of the best and the cheapest.

"I could go along on this strain and talk to you for several hours, but feel as though I am talking to a superior and probably taking his valuable time for something he might consider is worthless bunk. If you can get any new idea out of this letter, I feel myself amply paid: if not, throw it in the waste basket.

"E. E. BANKS."

The only exception we take to the above is in the closing sentence. We never want to be guilty of consigning such help to the waste basket.

You can see that Mr. Banks thought his letter might be construed as a kick. Instead, it is one of the best boosts we have received, for it has called our attention to one of our faults, then effectively shown us a remedy for the evil.

And so we frankly say, "Thank you, Mr. Banks"—and we hope that every other FarQuar Dealer will profit by your example.

Incidentally, let us say that our use of the word "furnace" is the result of custom and habit more than anything else, for the truth of

Mr. Banks' charge is all too obvious in the heating world.

**Human Interest Picture
Quickly Introduces
Home Heating Subject.**

There is no vehicle of thought which can express the idea in mind so quickly, forcefully and complete-

ly as the actual illustration. Word pictures are effective, but they are grossly inferior to the photograph when it is desired to convey a certain satisfaction to be derived.

In order to substantiate this truth, look at the illustration in the accompanying reprinted ad of the Honeyman Hardware Company, Park and Glisan Street, Portland, Oregon.

Does that illustration put you in mind of a pile of castings shaped into a furnace located in the basement? It does not. You immediately have a mental picture of a cozy bungalow not only heated, but appropriately and adequately ventilated as well, so as to make the home comfortable when you can no longer scoot over the road in your car.

This advertisement was sent to AMERICAN ARTISAN by G. B. Parsons, of the Stove Department of the Company named heretofore. It is an excellently prepared piece of copy, 6¾ x 12 inches in its original size. It carries the type of message that renders a real service to the patron; its explanatory matter enables the reader to learn what he can expect from the heating plant, not as so much iron and steel, but rather in comfort and satisfaction. It is not without its appeal to the economic sense of the average person, as the third paragraph is particularly well designed to stress this point.

Finally, the reader finds that there are no limitations to the type or size of dwelling which the Sunbeam furnace can efficiently and economically heat.

In what better manner could the subject of heating a home have been introduced to the home owner? Certainly it is as pleasant and painless a way as could have been devised. Comfort, durability, economy and dependability are all expressed so simply and quickly that it is amazing.

**Lennox Furnace Company,
Marshalltown, Iowa,
to Build Addition.**

It is reported that the Lennox Furnace Company, Marshalltown, Iowa, will build an addition at once, 72 by 144 feet, to house their sheet metal shop, in which they manufacture the casings for the Torrid Zone furnaces and make their line of fittings. The Lennox Furnace Company, it is claimed, already has the largest factory in the world devoted to the manufacture of steel furnaces.

Winter
Comfort
for Years
to Come



Warmth
a'Plenty
All
Winter Long

SUNBEAM

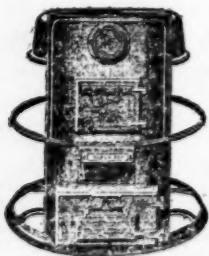
PIPE and PIPELESS

FURNACES

The Fox Sunbeam Furnace does more than heat!

When you start a fire in the Fox Sunbeam it responds quickly and floods every room upstairs and downstairs with fresh, moist warm air; the kind of heat that is conducive to good health, comfort and cheerfulness in the home.

The scientific construction of a Fox Sunbeam enables the user to operate it at a minimum of cost in fuel consumption and yet be assured of a warm comfortable home regardless of the weather outside.



You cannot afford to install a heating system in your home that only heats, or any system that fails to provide for proper home ventilation and for the healthful moistening of the home air, when the Fox Sunbeam gives these added advantages at no greater cost!

We can provide a Fox Sunbeam Furnace of exactly the right size to warm and ventilate your home whether it be an old or a new one. To estimate your requirements and quote a price places you under no obligation.

Heating Stoves

Bridge Beach & Co. Heating Stoves need no introduction to the public. Years of unqualified satisfaction to users has established this brand of stoves as a superior make in every respect.

Things for the Fireplace—Andirons, Fire Sets, Fire Screens, Hods, etc.

Honeyman Hardware Company

Park at Glisan St.

One Block West of New Post Office Near Broadway Bridge

Showing Value Human Interest in Advertising.

Jennings Tells About Common Furnace Kicks and Gives Suggestions for Overcoming the Faults.

In Many Cases the Chief Trouble Is That the Supply of Cold Air Is Insufficient.

THIS is the time of year when the furnace installers are busy and when some of them wish they were not quite so busy—remedying faulty installations or showing house owners how to get the best results out of their furnaces.

So the following excerpts from an article by O. E. Jennings, Manager of the Furnace Department of the Michigan Stove Company, which appeared in the October issue of the "Garland News," will no doubt be of interest and help:

Common Furnace Complaints

"The following are some of the most usual subjects of complaint: "First, furnace fails to give enough heat.

"Secondly, furnace fails to heat certain rooms.

"Third, furnace leaks smoke and gas up into the rooms.

"Fourth, furnace heats basement too hot.

"Fifth, furnace grates burn out.

"Sixth, furnace fire pot burns out.

"In a general way, these complaints are not peculiar to Garland Furnaces alone, but are complaints that are troubling every manufacturer.

"The Garland line of furnaces is properly made, and, if correctly installed and operated in accordance with the directions, there will be no trouble from any of these sources, except where the chimney has not sufficient draft or some cause beyond the control of the person installing the furnace causes the difficulty. There are in the city of Detroit more than ten thousand furnaces installed, embracing all the different constructions we manufacture, and in but three cases out of each thousand furnaces have we had any complaints.

"Hardly any condition can arise that has not had a parallel in several of the installations here in this city. Our guarantee of furnaces does not

include guaranteeing the installation nor the operation, neither does it include a guarantee of the durability when the furnace is installed or operated in a manner as to cause the destruction of any parts of the furnace. It is quite possible for a furnace to be installed and operated in a manner as to cause the entire destruction of the grate, firepot and radiator, in a single season.

"The first, second, fourth and sixth complaints are all generally traceable, if not invariably traceable, to lack of sufficient cold air supply.

Fails to Give Heat

"Regarding the first complaint, either the furnace has not a sufficient cold air supply, is not fired properly, or the pipes are of insufficient size, or the furnace, improperly installed, permits too much of the heat to go through large short pipes and for this reason longer, smaller sized pipes fail to receive any heat. The dampers in the warm air pipes are not used, or too small a furnace has been installed. Usually it is the cold air supply that gives the trouble.

Fails to Heat Certain Rooms

"Secondly, the furnace fails to heat certain rooms when the cold air supply is insufficient and the amount of air supplied is only capable of furnishing enough heated air to fill the short lengths of warm air pipe. The long runs will then not convey sufficient air to heat the rooms to which they are connected. Too small a cold air supply is usually responsible for this trouble.

Leaks Smoke and Gas Into Rooms

"Third, operating the furnace when the draft is poor fills the basement with smoke and gas. This filters through the crevices under the stair door, around the registers, and through other openings and finds its way into the rooms above. Sometimes the slide in the cold air supply in the basement is left open.

Sometimes smoke from the outside finds its way through the cold air duct. It is possible the furnace has not been properly cemented when installed, and in order to be certain that the furnace does not leak one of the short runs of warm air pipe can be easily taken down and the furnace fired with a quantity of straw or brown paper to generate a large volume of smoke. A lighted match or candle used through the warm air opening will show whether the furnace leaks into the casing. Smoke and gas in the basement is usually the cause of this trouble.

Heats Basement Too Hot

"Fourth, the basement gets too hot when not enough air is passed through the furnace to absorb the heat generated and convey the heat through the warm air pipes into the rooms of the building. Usually the basement gets too hot, due to a limited cold air supply. It may, however, be due to the fact that too small an area of warm air pipe is taken off of the furnace. That is, that too large a furnace has been installed and that the number of warm air pipes taken off of the furnace are too few for the amount of heat or fire usually maintained in the furnace. The basement being too hot, can be remedied by providing more cold air supply and, if necessary, more warm air outlets. Usually additional cold air supply alone is sufficient. In some instances, especially those wherein the space between the joists have been used to furnish a cold air supply and a sheet of galvanized iron has been used on the bottom of the joist to inclose the cold air space; particularly in basements that are very small and also where the smoke pipe from the furnace to the chimney is of good length, the heat generated by the length of smoke pipe in the small basement will so heat the cold air supply, through being absorbed by the galvanized sheet, that the cold air will reverse itself, that is, the cold air will come down through the cold air register, get part way towards the furnace, and then by reason of the heat in the basement, become heated and return back up

through the cold air inlet. As a rule, however, it is lack of cold air that causes the basement to get too hot.

Grates Burn Out

"Fifth, furnace grates burn out when ashes are allowed to accumulate under the grates. No other reason is likely to cause this trouble. Ashes should not be allowed to accumulate up close to the grates. Removing the ashes once a day will render impossible any complaint from this source.

Firepot Burns Out

"Sixth, the furnace firepot burns out when the cold air supply is insufficient. As long as there is a sufficient volume of cold air supplied to the furnace, this air, coming in con-

tact with the firepot, will prevent the burning out of the firepot except after long years of continuous use. It is possible to burn the firepot out in three months where the cold air supply is cut off entirely, just as it is possible to burn the grate out in less than an hour where ashes are allowed to accumulate up against the grate. The entire furnace can easily be destroyed by operating the furnace with the cold air supply closed. Trouble from this source sometimes comes from the putting of cheesecloth in the cold air supply. Sometimes, by reason of the cold air supply reversing itself as explained previously, and sometimes where a cold air supply much too small has been provided."

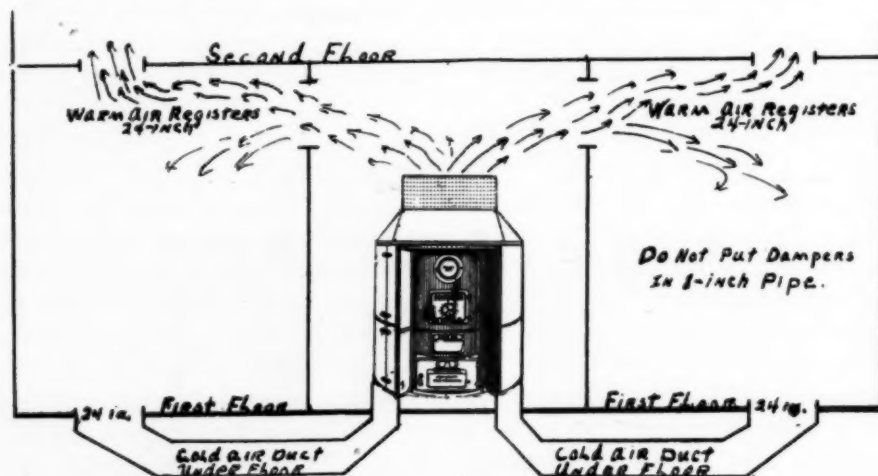
Ingle Would Meet Miller's Unusual Situation With Pipeless Furnace.

Disposes of Problem in Simple Manner Which He Thinks Will Do the Trick.

IN RESPONSE to the urgent "Help! Help!!" issued by L. E. Miller, Goodland, Indiana, appearing on page 20 of our October 13th issue, Will Ingle, Bainbridge, Ohio,

for a pipe furnace in a house that has no basement, so that the furnace must be placed on the first floor.

And, of course, the rooms on the



Solution to Miller's Problem Would Be a Pipeless, Says Ingle.

sends in the following remarks, with an explanatory sketch:

I note that L. E. Miller, of Goodland, Indiana, is "stuck" on heating a house with a warm air furnace. You will find a sketch that I think will put Mr. Miller to the good.

WILL INGLE.

The proposition as submitted was

first floor are to be heated in some way.

The furnace is located in a special room, walled off entirely from the other part of the first floor.

The sketch indicates the size and location of the warm air registers and the cold air ducts under the floor.

What to Do!! What to Do!!! Furnace Smoke Fills Church Basement and Parlors.

For the smoke specialists in the warm air furnace industry here is a case of twin furnaces installed in the basement of a church. When the fires are lighted in the furnaces, they smoke through the feed doors, filling the basement and the church above with undesirable smoke.

H. W. Griebel, ———, Missouri, makes the following comment: TO AMERICAN ARTISAN:

In a church basement there is a set of twin furnaces. These smoke, not through the warm air pipes, which would be caused by cracked castings or where cement joints are made, but through the feed doors into the basement and then into the church above. This smoking only takes place when a new fire is built. This peculiar phenomenon continues until the smoke pipe and flue are sufficiently warmed to counteract any cold air in them.

The furnaces are of the down-draft type and heat the building properly, so far as I have been told; they have acted in this manner ever since installed, although they have been thoroughly cleaned of soot and ashes.

The flue is 3 x 2½ brick and extends five or six feet above the roof of the building, being about forty or forty-five feet high.

The smoke pipe is twelve inches in diameter, about twelve feet to where the first furnace connects with an 8-inch pipe, there it is reduced to an 8-inch pipe for the second furnace.

There are no tall trees or buildings near this church, and I am at a loss to know just what to do in a case like this.

I shall appreciate any assistance your readers may give me.

HENRY W. GRIEBEL.

———, Missouri, October 30, 1923.

Times are changing. Irwin Cobb says the time once was when a quick movement to the hip pocket was a threat. Now it's considered an invitation.

**Western Warm Air Furnace
to Meet at Sherman House,
Chicago, December 5.**

For the convenience of the members of Western Warm Air Furnace & Supply Association who will wish to attend the meeting of the National Warm Air Heating & Ventilating Association, to be held at Urbana, Illinois, December 4, the Western Warm Air Furnace & Supply Association will hold its annual meeting at the Sherman House, Chicago, December 5.

This is the announcement of John H. Hussie, Secretary of the Western Warm Air Furnace & Supply Association, whose letter is as follows:

TO AMERICAN ARTISAN:

The annual meeting of the Western Warm Air Furnace & Supply Association will be held at the Sherman House, Chicago, Wednesday, December 5, 1923.

The National Warm Air Heating & Ventilating Association will hold its semi-annual meeting at the University of Illinois, at Urbana, Tuesday, December 4.

By calling the meeting in Chicago, December 5, we are giving our members, who may wish to attend the meeting at Urbana, an opportunity to attend both meetings with only one railroad expense.

The meeting at Urbana should be very interesting to every furnace manufacturer and dealer, as an opportunity will be given to inspect the testing plant there.

Our own meeting at Chicago, I can assure you, will be of great interest. We have never had a meeting when something of great importance to the furnace industry was not brought up. Several of the good things done for the industry have had their origin in our meetings, and I am safe in promising you that we are not done with "starting things."

Mark this date down for your attendance in Chicago, and you will receive further particulars later, as to time of meeting and program.

All men who are in any way in-

terested in warm air heating are welcome to attend the meeting.

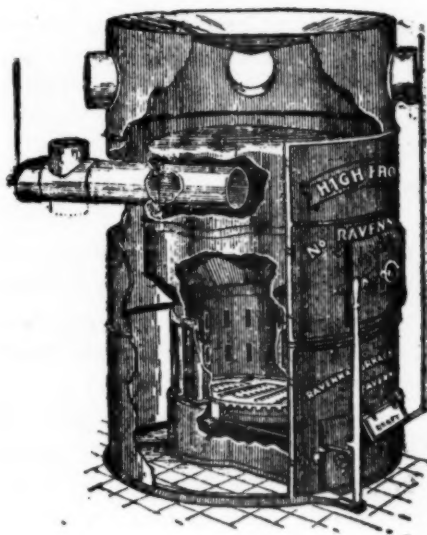
JOHN H. HUSSIE, Secretary.

**Leonard Awake to
His Responsibilities in
Serving Community.**

It very often happens that a man engaged in selling and installing warm air furnaces is also operating a tin shop. There is instance on

in those matters with which he is dealing. It is not enough for him to sit by and wait for patrons to come to him. He should take it upon himself to inform his patrons through the medium of advertising, either direct or indirect, when their furnaces need attention and the best time to give the furnace this attention so as to cause as little inconvenience as possible to the patron. The man who does that is rendering

We Are The Agents For Ravenna Furnace



**Furnaces re-
mented, smoke
pipes renewed,
chimney tops.**

Troughing, Roofing, New Ra-
diators, Radiators Repaired, Re-
built Radiators for Sale, New
Cores Installed, General Tin
Shop Work.

Have it done by

R. A. LEONARD

PHONE 23-L.

GENEVA, O.

Running a Tinshop and Furnace Repair Shop Together.

record of a hardware store devoting the entire upper floor and one man's undivided attention to tin shop activities.

Now, in order to render a real service to a community, the man operating a hardware store, a tin shop or a furnace installation business must be able to give accurate and reliable advice on subjects in which he is dealing. It is to that man's interest to be the self-appointed guardian of the community

an indispensable service and the community will be quick to recognize his worth.

The accompanying reprinted advertisement shows how R. A. Leonard, Geneva, Ohio, has taken the initiative in selling his services to the public of Geneva.

A more active headline could have been used with good results. The layout and illustration are all that can be expected in an ad of this sort.

***It Costs More to
Do It Wrong Than
to Do It Right.***

"It costs more to do it wrong than to do it right.

"If you are doing it the wrong way, you are injuring Warm Air Heating, hurting yourself and contributing to the possible failure of an honest man."—*Front Rank Spirit.*

Consider the simplicity of these few words! Only one of them has four syllables; the rest, for the most part, are 2-syllable words. What a wealth of truth they contain!

If you are a furnace installer, and you fail to measure and lay out a job carefully in the first place, you come into difficulties almost immediately; your estimates will not be truthful; they will not represent the actual heating requirements of the house in which you are engaged to install the system. Like an error in selecting the number from a logarithmic table, an untrue estimate of the job is cumulative, so that if a small error is made at the outset, by the time you reach the conclusion you are so far out of the way of a correct solution of the problem that your answer does not represent a true state of conditions; consequently the report which you submit for requirements will be inaccurate.

The furnace is then installed and the tests show a deficiency; the owner becomes irate and refuses to pay, for which you can't blame him. In self-defense the installer goes back to the manufacturer and says the furnace will not perform as was said it would. An investigation follows, which finally brings out the fact that the whole trouble was caused by an incorrect estimate being turned in.

Perhaps the owner has become discouraged by this time and has given the system a black eye.

Who suffers? The customer in the first place; the installer and manufacturer, and last but not least, the warm air heating industry in general.

A true furnace installer is one

who endeavors through conscientious, correct and considerate effort to carry out a policy of square dealing and of giving the best he has got at all times.

Service is the watchword. Let us watch and preserve it carefully from malicious treatment.

***Here Are Seven Points
Which You Should Read.***

A noted physician recently said that nine-tenths of the people who order ham and eggs in a restaurant do so because they lack imagination. Imagination is the plastic or creative power of the mind; to lack imagination, then, is to lack creative power. However, many men have an abundance of creative power which they have misdirected, and misguided creative power is worse than a lack of it, because it makes first the innocent suffer and finally the individual.

The furnace installer or sheet metal worker who is desirous of attaining perfection may profitably peruse the following seven principles by which to govern his standard and use as a check-up:

Honesty—No matter what his skill, the dishonest furnace installer is not only a menace to the community in which he resides, but also to the industry which he represents. "The mills of the gods grind slowly," but they grind, and sooner or later the installer's dishonest practices will be discovered, and then he will have to start at the bottom, with a record of malicious performances as a reference. Be honest and upright in all your dealings and particularly so in your advertisements.

Ability—The furnace installer must have the necessary ability to properly advise his customers and to install the furnaces that he sells in such manner that they will perform their functions satisfactorily and economically.

Experience and Education—Opportunities to learn all that there is known of the industry are certainly not lacking, and it behooves the furnace installer to avail himself of

these opportunities. He owes this much first to himself and then to the community in which he carries on his business.

Human Interest—The furnace installer should have the interests of his patrons always at heart. Only in this way can he ever live up to his responsibilities as a heating specialist. How can he possibly hope to generate confidence and good will if he is just "bluffing" his way through? He may "get by" for a while, but only for a while.

Industry—The furnace man should set a good example to the younger men under him. The human race is very imitative; in this way it learns; and it is your duty to shape and mold the minds of those under you in such a manner that they will not only be good representatives of the industry, but good citizens as well.

Ethics—A good set of ethics is the keynote of any industry. Do not have a separate set of so-called business ethics. The ethics which you use in your business should be the same code by which you conduct your home and that code should embody the Golden Rule.

If you aim at perfection, and it is only fair to assume that you do, read over these seven points; check up on yourself and if you find you are slack in any one, don't hesitate to rectify it now. "Be not like dumb driven cattle, be a hero in the strife."

***Frequent Changes Are Necessary
to Make Advertising and Window
Displays Pull.***

Cato hammered away on a single phrase in all of his orations until he sold the Senate and the Roman people on "Carthage must be destroyed." Assuming the proposition is reasonable, you can make people believe in it if you repeat it often enough in terms that can be easily understood. This doesn't mean that all advertisements should be alike. Changes of copy and layout are as important in advertising as changes of merchandise in display windows. Merchants who are most successful change both most frequently.

Kothe Submits Solution to Koederele-Heyer Company Problem of Tee on Taper Flat on One Side.

Problem Appeared in a Recent Issue — Working Drawing Shows What Mr. Kothe Believes to Be Practical Solution.

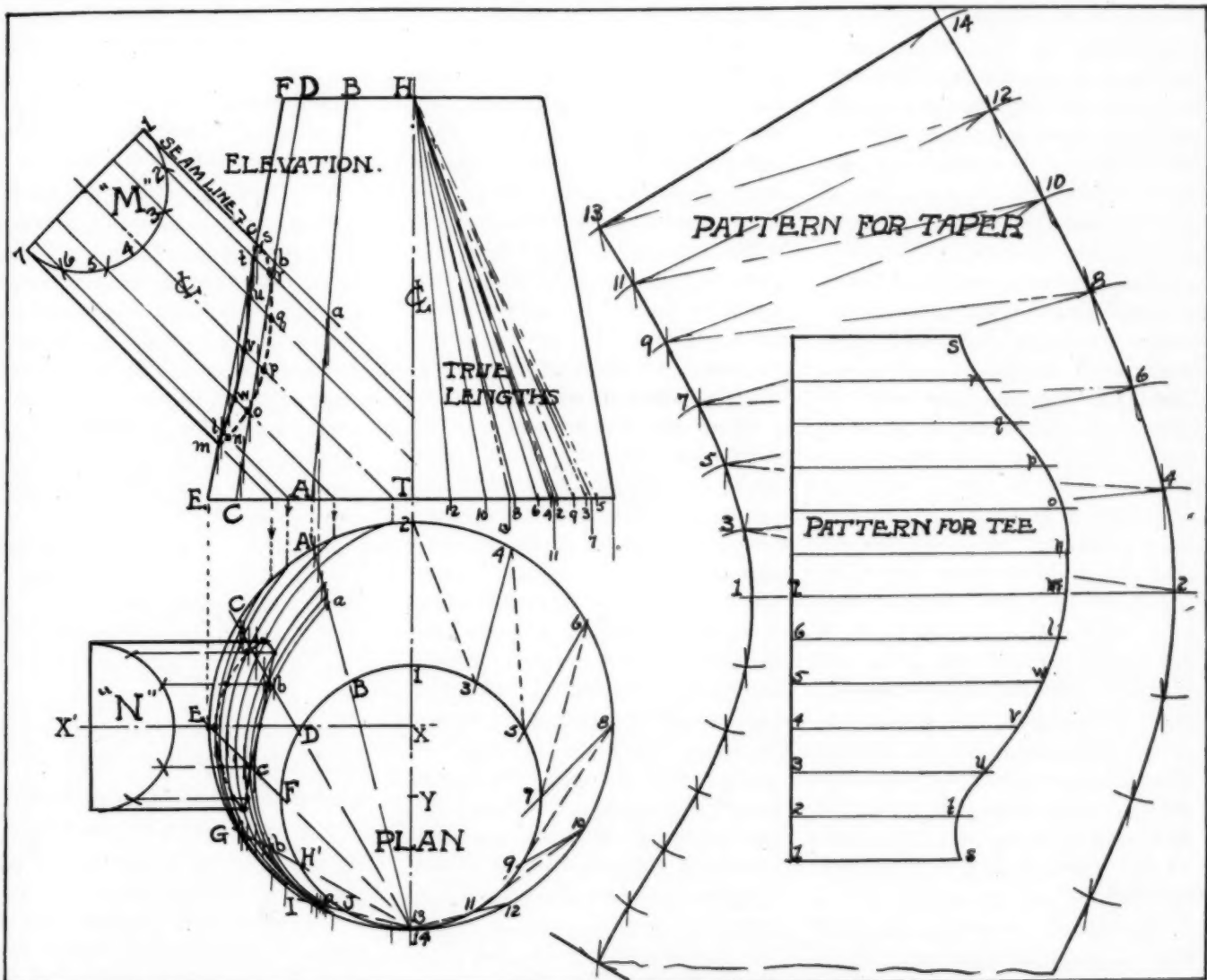
Written Especially for AMERICAN ARTISAN AND HARDWARE RECORD by O. W. KOTHE, Principal, St. Louis Technical Institute, St. Louis, Missouri.

IN a recent issue the Koederele-Heyer Company asked for solutions of tee intersections similar to those shown in our drawing. Some time after that an author provided a solution which, I suppose, makes

to handle than the more accurate solution we show.

There are three methods of treating this problem geometrically accurate: the one is with a third diagonal view, such as the above firm

second method is as we show; namely, by using an elevation and plan, developing parabola lines in the plan. The third method is to treat the front and side elevation, developing the parabola lines in the front



Pattern Shows Solution by Mr. Kothe to Koederele-Heyer Company Problem Submitted in a Recent Issue—Mr. Kothe Says There Are Three Solutions to the Problem, but the One Described Is the Best.

something; but I doubt if it will work out accurate enough for stock work. Possibly for individual treatment that solution will answer the purpose, with the aid of a little trimming, it being shorter and easier

included in their sketch. This treatment is quite satisfactory, but the development of the third view makes a little more work, and on large fittings the projection of lines permit inaccuracies to creep in. The

elevation instead of the plan as we show.

But as the part of the plan must be described, the writer feels that the more unnecessary views that can be dispensed with, the better and

simpler the work can be turned out in the shop. First, draw the side elevation of taper joint as measurements may require for the two bases and its height; the tee with the section "M" is also drawn, extending the lines parallel to the center line 4-T until they intersect the center line H-T or the base line E-P. After this we describe the plan to suit the diameters so the two circles come tangent, as shown. We next divide the larger circle in any number of equal parts, six in this case, and draw lines to the point 14. This also divides the smaller circle in the same number of equal parts, as A-B, C-D, E-F, etc.

Now, the idea is to develop parabola lines in the plan in such a way that they will represent lines passing along those lines from "M" as they intersect the surface of the taper. To do this we must observe carefully how the lines in the plan and elevation correspond; thus A-B of plan is the same as A-B of elevation, and C-D of plan is the same as C-D of elevation, while E-F of plan is the same as E-F of elevation. The intersectional points of the lines from "M" to the elevation of taper, as E-F, we drop vertically to intersect E-F of plan. Next we drop lines from each point in line C-D of elevation and drop them into plan, thus crossing similar lines C-D and G-H'. In like manner drop lines from each point in elevation line A-B to intersect plan lines A-B and I-J. This then enables sketching these parabola lines in plan, as shown. Observe that the line 1 from "M" intersects the elevation lines in points a-b-c. This line then makes the curve in plan as a-b-c-b-a. In like manner all the others are established.

Having the curvature of these lines in plan, we must next determine how far the tee will spread or pass over them. We draw the plan of tee on the axis X-X'. Now this axis line can be placed in any position desired, just so it is square to the vertical axis line, and from it we describe the section "N" and treat in the same number of equal spaces as "M" of elevation. From each of

these points we project lines into plan parallel to X-X', until they intersect parabola lines of similar number as the heavy dots show. A line sketched through these points will establish the miter line or the points of intersection between the tee and the taper. To establish the elevation miter line we then erect points from each of these heavy dotted points in plan to intersect lines of elevation of similar number, which gives us m-n-o-p-q-r-s-t, etc. This then permits us to lay off the pattern for the tee by picking the various lengths from the base 1-7 of tee to these points m-n-o-p-q-r-s-t-u-v, etc. We might say the girth can either be figured by multiplying the diameter by $3 \frac{14}{16}$ or in picking the spaces on the section "M" and setting them off on the girth line. This latter sometimes is not so satisfactory and should be checked over by calculation, since sometimes a girth will fall short or run over by the picking process. From the pattern for the tee we see there are two different halves and this must, therefore, be formed correctly or it will not fit on the taper.

To develop the pattern for taper the true lengths must be developed similar, as we show in the right half of the elevation, by picking those lines from plan and using them on a base line. All this process is similar to many such fittings we have been developing off and on, and, therefore, hardly needs further comment. The pattern for the opening is omitted in this case, since it involves considerable confusion of lines, and in the shop the opening would be cut out anyhow after the tee is formed and set in position. Edges for seaming must be allowed extra on all edges to be joined together.

Wolff Resigns Post With Illinois Zinc—Wemple His Successor.

Eugene H. Wolff has resigned as Secretary and General Manager of the Illinois Zinc Company. His successor is Leland E. Wemple, formerly connected with the American Zinc, Lead & Smelting Company.

Aurora Sheet Metal Contractors to Hold Get-Together Banquet Hotel Aurora, November 5.

The Get-Together Banquet of the Aurora Sheet Metal Contractors' Association will be held at the Hotel Aurora, Monday, November 5, at 6:30 p. m.

The Association has been organized for approximately four months, with a present membership of 15. The banquet will be given for the members and their wives, their employes and wives, making, it is expected, a total attendance at the banquet of about seventy-five people.

Dinner will be served promptly at 6:30 p. m., to be followed by singing and entertainment furnished by talented Association members and employes.

A. G. Pedersen, Editor of AMERICAN ARTISAN AND HARDWARE RECORD, is expected to give a talk. R. W. Blanchard, of Hart & Cooley Company, Chicago, and George Harms, of F. Meyer & Brother Company, Peoria, Illinois, are also expected to be present.

The music for dancing will be furnished by Fitzgeralds' orchestra.

The officers of the Association are as follows:

President, Henry Gabrielson; Treasurer, Peter V. Shuster; Secretary, George Bushman.

JACK STOWELL,
Chairman Banquet Committee.

Chicken Dinner Enjoyed by St. Louis Sheet Metal Men's Club at Florissant, October 25.

The monthly get-together meeting of the Sheet Metal Men's Club, composed of members of the two St. Louis Local Associations of Sheet Metal Business Men, was held the evening of October 25, at Florissant, Missouri, about twelve miles from St. Louis. The members motored to Florissant. After partaking of a real country chicken dinner, dancing was enjoyed, it being ladies' night.

Mr. Frank Mackey acted as chairman or toastmaster, having been

appointed by the previous chairman, and he in turn appointed Paul R. Pollard chairman for the next social function.

In opening the meeting, Mr. Mackey dwelt at quite a length on the origination of women, from the time of Adam to the present time, in which he finally declared they certainly dropped from heaven. He presented the ladies with a liberal size box of chocolates. There were a number of after-dinner speakers who took up where Frank quit, until the ladies openly declared in unison that sheet metal men make the best husbands.

Next get-to-gether meeting will be held November 22.

Erie Railroad Subjects Corrugated Zinc to Interesting Test.

One of the most interesting and perhaps severe tests to which zinc has ever been put has recently been completed by the Engineering Department of the Erie Railroad Company.

The test covered a period of a little over one year.

Samples of several different kinds of corrugated material taken from regular stock and, unknown to the manufacturers and fabricators, were fastened to two large wooden squares. One of these boards of samples was placed in the Erie tunnel which leads to their Jersey City terminal and the other in the roundhouse at Jersey City.

The tunnel is a long one and all traffic coming into and leaving the Jersey City yards passes through it. This practically means that there is hardly a minute of the day when the tunnel is not gas and smoke-filled.

Removing the board after its year's sojourn in the darkest, most illy-ventilated section of the tunnel, showed that the corrugated zinc was still in good condition.

The zinc sheets showed no deterioration whatever. Indeed the side of the zinc sheet next to the board was bright and shiny as when turned out by the mill.

The roundhouse test board told the same story—the zinc sheet in as good condition as when first placed upon the board.

As a result of these tests the Erie Railroad engineers are satisfied that zinc is the material they are going to use more and more in their permanent construction work.

During the inspection of the re-

sults of these tests it was learned that the Erie Railroad has a zinc roof on its station at Masthope, Pennsylvania, which was completed in November, 1885. This zinc roof has never been repaired since it was first put on and shows excellent condition today, and is probably the oldest railroad zinc roof in the United States.

There Exists a Difference in Knowing of a Man and Knowing the Man.

***It Requires Time to Learn to Know People
and to Acquire Knowledge Says Greenberg.***

Written Especially for AMERICAN ARTISAN AND HARDWARE RECORD by J. C. Greenberg, Cleveland, Ohio.

I HAD received a letter from John Golden asking me to come to his town as soon as I could, because he was holding up a matter on which he wanted my advice. Now, John and I have been friends for a long time, and I sold him his first bill of goods. I am proud to say that the confidence that he placed in me was flattering indeed. Not so much because he was a big business man, but rather because he is always anxious to ask questions. He is not a smart Aleck. I wired him that I would be in town that Saturday morning, and he met me at the hotel.

"What's on your mind, John?" I asked. "Come up to the room and tell me all about it."

In less time than it takes to tell it, John and I were both comfortably seated in my room. I waited for John to open up, which he did without making any bones about it. "You know," said he, "that my business has been gradually growing and I feel proud to say that it has outgrown the one-man stage. By that I mean that I need a partner who is capable to take charge of the inside, in order that I can devote my entire time to the outside. I can no longer take care of the inside, supervise the men and go out after new business. So I have a man who has had twelve years' experience, who has a little money and who wishes to take hold with me. But I do not want to go ahead till I see you and ask you about it."

"How long have you known him?" I asked.

"Oh, I've known him for two years," said John, "and he is a steady sort of a man."

"You do not understand me, John," said I. "I do not mean how long you have known his name. What experiences have you had with this man? What do you know about his inner self?"

"Well," John replied, "if you put it this way, I will tell you just what experience I have had with him. About two years ago I met him at the convention the state association held. We were together nearly all the time. Then one day he was in town and he stopped in to see me, and spent the day with me. Last spring he was here to a lodge convention and he called on me. About a month ago he was in town on business and he again stopped in. It was at that time that I broached the subject of partnership, and he seemed just as glad as I was to entertain the proposition."

"Is that all you know about him, John?" I asked.

"That is all," replied John, "but I am sure that he is the kind of a man I need."

"Now let us sum this matter up and see what the answer will be," I proposed. "You met him at that state convention which lasted just two days. Then, a short time later he called on you and spent the day with you. This makes three days.

Then, last spring he was here on lodge business and called on you, say half a day. This makes three and a half days. Then, about a month ago he again stopped in, say for half a day. This makes four days that you have experienced this man. And you say you have known him for two years. There are 730 days in two years, and you only spent four days with this man. How do you figure that you have known him for two years?"

"Well," John protested, "I have known him for two years, because it was two years ago when I met him."

"You figure this wrong, John," I said, with sincerity. "You have written me to see you on this matter, and I want to give you the right advice. You cannot know a man by only seeing him four days in two years."

"But he is a fine man," insisted John. "I wish you could see him. He looks good, and seems to be honest."

"John," I remonstrated, "you are not considering a partner because he is good looking. I will admit that he must be honest, but forget looks. Suppose that you were contemplating marrying a woman whom you have known, as you say, for two years, but actually have only experienced her personality for four days in all that time. Would you marry her?"

"Oh, that is a different matter," answered John. "Marrying a woman is a life proposition."

"It is not different at all, John," I explained. "Partnership is a commercial marriage. You both agree to certain matters of vital importance, which concerns your very lives' happiness. This, being the case, you must actually know the personality beyond question. You certainly cannot know a man in four days well enough to place a first-class business in his care. Your business is a good one which you have nursed since a baby, so to speak. This is too important a matter to handle on a four-day personal experience."

John sat there in thought. He was

beginning to see the difference between knowing *of* a man and knowing the man. Finally he turned to me and said: "I believe that you are right in this matter. I really do not know anything about this man. I merely know *of* him. I see where you are right about me only knowing him for only four days instead of two years. It is all so simple that I am surprised at myself."

"Why certainly, John! It is logical," said I. "You really know nothing about his ability, his character, his home ties or his reputation. Yet, you are ready to take him in as a partner. I am really surprised at you."

"I don't blame you for being surprised at me," admitted John. "I am surprised at myself, after you have explained to me the difference between knowing *of* a man and knowing *the* man. Yet, I need a partner, as I have explained to you. Now what am I to do?"

"There is only one thing to do, John," I answered. "Size up the business men in this industry in this town whom you really know well, and with whom you have had real experiences. Keep your eye on your keenest competitor who has always been a square man in competition. Find that man who, as a competitor, has often stopped in to say kind words to you, and who has spoken kindly of other competitors. Find that man who has a reputation as a clean-cut and progressive man, whom the bank will recommend to you after you have decided to accept. Never mind whether he has any money or not. Just look for brains and ambition. Always remember, John, a man must be *able*, he must be *reliable*, he must be *healthy*, and he must be *industrious*; in other words, this is what makes a live-wire."

"I am glad that you came," said John. "I believe that I will just keep at it until I find that kind of a man. That is the only kind of a man that will answer. Thank you very much."

Yes, dear reader, there is a difference between knowing *of* a man and knowing *the* man. Many are the

notes that were paid, and many are the bills that are unpaid just because some business men know *of* a man for many years, but really knew *the* man for about a week all told. Just think over this matter and some day you may save yourself a lot of grief. It takes time to know things or people.

A man may be in business for ten years, but has actually *experienced* business for about six months all told. This is why so many men are failures. They take too much credit for calendar observation, and put it down as knowledge. Don't be that way. Learn to know well and thoroughly what you should know, and you will succeed. The only real knowledge is that which comes from your brain and not from the calendar

*Using Lap, Slate and Composition Shingles.**

Two letters are lying before me in reference to the article which appeared in the August 4th issue of AMERICAN ARTISAN AND HARDWARE RECORD under the caption of Repairing Slate, Asbestos and Asphaltum Shingles.

In one from southern Ohio, the writer does not appear to understand exactly what is meant by "under lap" of the shingles, and wants to know how to line ahead of his work, on the sheeting or felt, when repairing a roof on a large tobacco warehouse when the damage is of considerable area, and has stripped the center of the body of the roof to the gable end, entirely of cover.

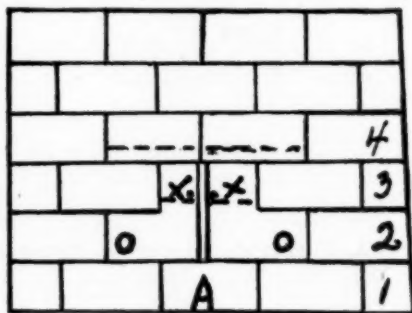
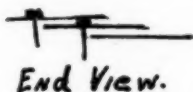
The letter from Kentucky is in reference to the two dots slightly back from the edges of the shingles at the seam between H.H. of the illustration of that article. The dots indicate nail heads, and he wants to know why nails should appear at that point when the shingles are secured by cleats, as described in the article.

They appear there through some oversight, or error, by the writer in-

*Written especially for AMERICAN ARTISAN AND HARDWARE RECORD by L. S. Bonbrake, County Hospital, Peoria, Illinois

advertently placing them at the wrong location in his sketch. The dots should appear near the edges of the two slates covering the slate "A" of the first course of the section of roof illustrated here, and three inches above the bottom line of the third course, as shown in the illustration here given.

The dotted line on the slates X, X, indicate the top end of the shingle A, in the first, or bottom course of slate which have been removed. It has only a portion of its surface exposed to the weather that counts as a measurement surface, in the grand total of covering the building, though serving under the slate of the second and third courses to pre-



Dotted Line XX Indicates End of Shingle A.

vent water from entering through the space between the edges of any two shingles.

The line of separation between the two slates O.O., in the second course, as shown, extends under the third course above and over it, continuing on for three inches above the line of location for the butts of the fourth course. This latter is known by the trade generally, as the third or "under lap." Three inches is provided by all dealers and quarry owners for this purpose. To digress slightly, I shall say that here is the point at which the "hurry up" man, and cheapskate, can easily ruin a good roof by sacrificing quality for price; he will give a diminutive "under lap," cutting down the third lap from three inches as low as one inch, and oftentimes making a regular practice of giving only two

inches. It is *very poor* practice. He is not only cheating the producer of the shingles and the owner of the building, but himself as well, by frequent return trips to the building made necessary to make the roof waterproof, by bolstering it up with cement or putty to "get by" with, until pay for it has been received.

It is just as easy for the High School carpenter to bearn by one measurement, what length has been given to the third lap as it is for the college-bred architect, or contractor, by the following method:

Find the length of the surface exposed, double it, then the difference between the sum and the total length of the slate will be the length of the "under lap." For a 12x24-inch shingle giving a three-inch lap at its top, i. e., $24 - 3 = 21 \div 2 = 10\frac{1}{2}$ inches, hence the roofer gets $10\frac{1}{2} \times 12$ -inch laying surface or measurement out of the shingle (126 square inches) by giving a two-inch "under lap," the roofer only gains $\frac{1}{2}$ -inch to each course, instead of an inch, as many believe, without figuring, i. e. $24 - 2 = 22 \div 2 = 11 \times 12 = 132$ square inches to the shingle, a gain of only approximately six shingles to the square, and a ruined roof. However, with close competition, at times it is enough to land the contract and keep a good, square workman out.

When repairing a damaged roof at the gable end of a building, bare of old shingles as a guide for the chalk mark, measure the extension of the shingles from the nail to their top end. Point of the gable a like distance line, and lay the top ends of the shingles to the line, when their bottom ends will line up straight. To locate nail holes, add three inches to the exposed surface as described; $10\frac{1}{2} + 3$ inches = $13\frac{1}{2}$ inches, from the thickest end of the shingle. The short end of the slate from nail holes going under, as the work progresses to completion, will tend to smoother laying of the shingles.

The consumer's vague notion of product value is crystallized into conviction at the retail counter.

Inland Copper Alloy Sheets Trade Mark Allowed to Be Registered As of November 6, 1923.

The application of the Inland Steel Company for trade mark of its Inland Copper Alloy Sheets has been allowed, and it will be registered as of November 6, 1923. This announcement was made by W. C. Carroll, Vice-President of the Inland Steel Company, Chicago.

A pamphlet, $3\frac{1}{2} \times 6\frac{1}{2}$ inches, has been issued by the Inland Steel Company in which the properties of Inland Copper Alloy Sheets are discussed, and we quote in part from this as follows:

"Resistance to Corrosion."

"More is known about the corrosion resisting properties of Copper Alloy Steel than about any other virtue the product may possess. Many theories have been advanced.



Trade Mark of Inland Copper Alloy Sheets to Be Registered as of November 6, 1923.

Endless tests have been made. Discussions and the results of actual tests have been published in Scientific and Trade Journals. The point upon which all are agreed, however, is that corrosion can be controlled.

How Corrosion Is Controlled.

"Sulphur is the enemy of the steel maker; its elimination is impossible, but it is the opinion of leading metallurgists that it can be robbed of its detrimental influences. The most generally accepted idea on this point is that the copper, as the alloy cools, goes into solid solution in the molten steel. A new compound is formed, possessing at least one of the virtues of copper, and the sulphur ceases to be a detrimental factor. The oxide or rust

which forms on Copper Alloy Sheets is influenced directly by the copper content. That this oxide plays a very important part by protecting the sheets, is a determined fact, admitted after long and careful study by scientific investigators and practical steel makers.

Samples for Test.

"Samples of Inland Copper Alloy Sheets will be gladly supplied. Competitive tests are encouraged, but care must be taken to secure a correct analysis of all samples submitted, for should the competitive samples contain Copper and its presence not be known, the results would be misleading."

Michigan Sheet Metal Convention Committees Announced by Secretary Ederle.

The committees for the Thirteenth Annual Convention of the Michigan Sheet Metal and Roofing Contractors' Association, to be held at Lansing, Michigan, February 25 to 28, 1924, have been appointed by William Waldron, President of the Lansing Sheet Metal Contractors' Association.

The names of the committees and their members as submitted by Secretary F. E. Ederle, are as follows:

Reception—J. Hundt, M. S. Whipple, P. Vander Waals.

Entertainment—E. H. Ward, William J. Porter, H. R. Paulson.

Hotels—F. Oberlin, F. Hoffman, E. Anderson.

Finance—Don Warner, Herman Reufer, F. Oberlin.

Publicity—P. A. Johnson, E. H. Ward.

Advertising—F. B. Harrington, William Waldron.

A. L. Adams, Mason City, Iowa, Undergoes Operation for Appendicitis.

A. L. Adams, proprietor of the Adams Sheet Metal Works, Mason City, Iowa, was operated on for appendicitis recently, according to *The Iowa Sheet*. Latest reports state that he is recovering rapidly and his many friends hope that his

recovery will not only be rapid but permanent.

A Discount Sale That Was Run in a Different Way.

D. Loveman, Nashville, Tennessee, hit upon an idea not long ago that drew attention to a special discount being offered. Instead of giving the customer a discount of 10 cents on the dollar in the regular mark down way, booths were established on each floor for refund purposes. Newspaper advertisements informed the public that 10 cents on each dollar would be refunded during the sale and for every dollar spent the customer was given a ticket entitling him to the rebate of 10 per cent.

In reality it was only a discount sale, but customers seemed to be much more impressed; in fact, the spirit current was that they were getting something for nothing.

Notes and Queries

"Reliable" Gas Ranges.

From Bernard Prest, 3122 Roosevelt Road, Chicago, Illinois.

Please advise me who makes the "Reliable" gas stove.

Ans.—Reliable Stove Company, Division of American Stove Company, Cleveland, Ohio.

"Iwan" Chimney Top.

From J. C. Stewart Sheet Metal Works, 6001 Lawton Avenue, Detroit, Michigan.

Kindly advise us who makes the "Iwan" chimney top.

Ans.—Iwan Brothers, South Bend, Indiana.

Electrical Goods.

From W. P. Myers, Linden, Michigan.

Will you please tell me where I can buy a general line of electrical goods?

Ans.—Manhattan Electrical Supply Company, Incorporated, 114 South Wells Street; Triangle Electric Company, 160 West Lake street; Kubec Electric Company, 628 West Jackson Boulevard; Champion Electrical Supply Company, 733 West Jackson Boulevard; Electrical Dealers Supply House, Incorporated, 2220 Diversey Boule-

vard, and Inland Electric Company, 14-16 North Franklin Street; all of Chicago, Illinois.

Socket Corner Chisels.

From Swope's Repair Shop, Jerry City, Ohio.

Who handles 1/2-inch socket corner chisels?

Ans.—Hibbard, Spencer, Bartlett and Company, 303 North State Street, Chicago, Illinois.

Radiants for Gas Heaters.

From Woolwine Metal Products Company, 8th Street and Santa Fe Avenue, Los Angeles, California.

Will you kindly tell us who makes radiants for radiant gas heaters?

Ans.—General Gas Light Company, Kalamazoo, Michigan. Their line is handled in Los Angeles by the B. C. Babcock Company, 908 Marsh Strong Building.

"Epeneter" Ventilator.

From Charles F. Hauck and Company, No. 59 West Main Street, Springfield, Ohio.

Can you tell us who manufactures the "Epeneter" ventilator?

Ans.—G. F. Epeneter Cornice Company, Omaha, Nebraska.

Address of Superior Stove Company.

From The Stove Dealers Supply Company, 310 Chestnut Street, Milwaukee, Wisconsin.

Will you please furnish us with the address of the Superior Stove Company, as we want to get repairs for one of their laundry stoves.

Ans.—This firm has been out of business for the past six years, and left no successors. However, you can get repairs from the Northwestern Stove Repair Company, 20 West Lake Street, Chicago, Illinois.

Artificial Flowers for Window Decorations.

From F. J. Sengbusch, 617 Adams Street, Fort Atkinson, Wisconsin.

Please advise where I can buy artificial flowers and trimmings for window decorations.

Ans.—L. Baumann and Company, 357-359 West Chicago Avenue; Brandau Art Flower Company, 439-441 South Irving Avenue; Oscar Leistner, 323-325 West Randolph Street; A. L. Randall Company, 180 North Wabash Avenue; G. Reising and Son, 24 East Congress Street, and Schack Artificial Flower Company, 63 East Adams Street; all of Chicago, Illinois.

Crabb Arranges Window Within Window Using Fall Ammunition and Boy Scout Knives.

Dummy Standing Before Window Attracts Attention to Belcher & Loomis Hardware Company, Providence, Rhode Island.

THERE are many and unique ways of arranging a window display to attract attention. Each individual has his own way of doing it; ideas spring spontaneously to the minds of clerks who give the matter thought, and each clerk has conditions peculiar to his store to

Mr. Crabb makes the following comment:

"This window was built to represent a window within a window. The wax figure of the boy standing on the sidewalk looking in at the display, with the lamp post and the sign 'Remington Street,' all helped

were displayed on each side of the window, all together helping to make a very attractive ammunition and pocket knife display.

"It attracted a lot of attention and helped to sell the goods. This window is fifteen feet long, seven feet deep and nine feet high."



Howard C. Crabb Discovers Unique Method of Placing Window and Street Within Display Window, Placing Dummy Before the Window Which Attracts Attention.

meet. Consequently, in meeting these special conditions his results will be different from those of a man arranging a window display in another town.

The accompanying window display was arranged by Howard C. Crabb for Belcher & Loomis Hardware Company, 83 to 91 Weybosset Street, Providence, Rhode Island.

to bring out the thought of the front of a store.

"The background of the inner window was light tan with brown oak leaves shaded into a red, gold, and silver, hanging in garland effect with the deer's head in the center over the ammunition. This brought out the thought that it was Hunting Time.

"Pocket and Boy Scout knives

Do You Give Your Window a Chance to Express Its Pulling Power?

The psychology of window display making is not difficult to understand. Perhaps you do not know why the eye is attracted by certain combinations of colors or the many other reasons that cause people to stop and look in at the windows

when passing. Suffice it for you to know that this is a fact and that the uncommon or unusual thing always attracts attention.

Your purpose, then, in making a window display is to place your goods in such a manner that they will not only attract attention, but will instill a desire for possession in the passer.

We are exceedingly zealous in our desire to advance the science of window display making, and in order to promote a healthy spirit of competition in this phase of retail salesmanship we are offering \$100 in cash prizes—\$50, \$25, \$15, \$10—for the four best photographs of window displays received at the office of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago, not later than January 12, 1924.

Think up an original design for a window display, have it photographed and send it in; it may take the \$50 prize. Do it now!

Rules Governing Contest.

The photograph, together with descriptions of how the window displays were arranged and the materials used may be sent by mail or express, charges prepaid, and must reach this office not later than January 12, 1924.

Each photograph and description must be signed by a fictitious name or device and the same name or device must be placed within a sealed envelope containing the real name and address of the contestant. This sealed envelope is to be enclosed with the photograph. Contestants may enter as many window displays as they desire.

AMERICAN ARTISAN AND HARDWARE RECORD reserves the right to publish all photographs and descriptions submitted in this competition.

A competition committee of three will be appointed, one of whom will be an expert window dresser and one an experienced hardware man. This committee will pass upon the merits of all photographs and descriptions received, without knowing the names or addresses of the senders, and will decide the winners of the contest.

Eliminating Drop Shipments from Manufacturer to Retailer Made at Wholesaler's Order.

Fayette R. Plumb Tells Hardware Men at Convention at Atlantic City Practice Is Wasteful.

ASUBJECT of more than ordinary interest to jobbers and manufacturers is the practice of drop shipments by the manufacturer direct to the retailer on jobber's order.

In the article which follows Fayette R. Plumb, of Fayette R. Plumb, Inc., Philadelphia, Pennsylvania, has outlined a plan of reducing the cost of distribution. This address Mr. Plumb delivered before the House Furnishing Goods group and the Builders' Hardware group at the convention of the American Hardware Manufacturers' Association, Atlantic City, October 18.

How May the Practice of Drop Shipments Be Best Handled?

The entire hardware industry is intensely interested in reducing the cost of manufacture and of distribution so that hardware may be sold at prices which consumers will be willing to pay. Efforts to reduce the cost of manufacturing run up against the stone wall of increasing rather than diminishing wages for employees. The advance of 10 per cent to anthracite miners, in spite of the fact that their wages were at the war peak, doesn't help the situation. Manufacturers of hardware must compete for workers against the wages paid in other industries. Furthermore, the high wages prevalent in the building trades and the clothing industry set a standard reflected in rents and city prices for everything that keep the cost of living so high that workmen are constantly wanting more money instead of less.

The same general conditions keep up the cost of distribution. One way to attack the problem is to eliminate wasteful practices that have crept in with competition to render service. A campaign to eliminate every form of service which is not worth what it costs would reduce a great deal of the waste that is increasing the cost of doing business for both manufacturers and distributors.

Direct Shipment a Wasteful Practice.

The growing practice of drop or direct shipment by a manufacturer to a retailer of an order from a wholesaler, is in many cases a wasteful practice. If we put it to the acid test of charging what it costs, the practice will be eliminated, except in the few cases where a direct shipment is really an economic service. Such cases are the exception rather than the rule. If manufacturers were able to ship direct to retailers, individual items at a cost as low as the cost for a jobber to stock and ship the item with other goods, then jobbers would soon pass out of existence and sales in small quantities would be made by manufacturers directly to retailers. We must, therefore, recognize that the

growth of direct shipments, being an economic waste, is an evil that manufacturers and distributors should cooperate to correct.

We know that the growth of this evil is due to over-cautiousness and conservative buying that results in broken stocks. We have cases of wholesale customers, who since the war, have been sending us so-called stock orders every three or four weeks and in addition thereto a larger number of orders for direct shipment, many of which are for less than the standard carton in which Plumb Tools are packed. Some of these orders amount to only two or three dollars. We believe that the detailed work of filling an order for less than \$25.00 eats up the profit. To illustrate this, every order we receive, however small, has to go through the following routine:

1. Enter order
2. Make out acknowledgment and mail to customer.
3. Tabulate to factory production record
4. Tabulate to customer's order record
5. Take items from stock or from tools in process.
6. Pack specially, instead of in standard 6 dozen case
7. Secure Bill of Lading, or Express Receipt, or Parcel Post receipt
8. Make out invoices and mail to customer
9. Post invoice in Ledger
10. Post payment when received

According to our records the cost of these processes is in excess of \$2.50 which would absorb a 10 per cent net profit on an order amounting to \$25.00.

Street Gives Address on Drop Shipments.

A most interesting analysis of this subject has been made by O. D. Street, General Manager of Distribution, Western Electric Company. Every manufacturer and jobber should read his article. His investigation showed that 60 per cent in number of their orders their distributing branches received were for less than \$25.00; that the average gross profit on these orders was \$2.35 and the average net loss was \$1.63. On orders over \$25.00 their average gross profit was \$24.70 and their net profit \$10.12. Their total figures show that on all the orders combined for \$25.00 and less, they lost in one year over \$750,000.00, and on the orders for more than \$25.00 they made over \$3,000,000.00. This is in spite of the fact that their gross profit on small orders was 27 per cent and on the larger orders only 18 per cent. The difference between the profit and loss was simply due to the fact that the cost of filling the small orders more than ate up the gross margin of profit.

We feel that we are on sound ground when we make a service charge of 10 per cent for direct shipments. We know

that this is less than the average cost of direct shipments to us. We believe it is no more than we save the jobber by performing this service for him. The margin between the retail price of Plumb Tools and the wholesale price is set to provide for the cost of stocking and shipping Plumb Tools as well as the cost of selling them. We do not believe a distributor is entitled to pay for a service that he does not perform and that when he shifts to a manufacturer the service of stocking and shipping orders for him that the manufacturer should receive the pay for this service.

When Jobber Is Entitled to Protection.

Our customers recognize that this charge is not only just as a payment for service, but that it is also a protection to the wholesale hardware trade against the growth of a practice that would develop a horde of commission men collecting orders from retailers and sending them to manufacturers for direct shipment. We believe the jobber who stocks and ships Plumb Tools is entitled to protection against anyone who simply sends us an order for direct shipment. We believe also that the practice of charging at least 10 per cent for making a direct shipment helps to protect the legitimate profits of our wholesale distributors against radical price cutters who send salesmen outside of their natural territory. Such salesmen not being in a position to render service which a jobber is able to render in his own territory, have to cut prices to offset this lack of service and the house recoups itself at the factory's expense by ordering direct shipment. It is especially important for us to guard against this practice because our distributors recognize Plumb Tools as a profitable line for both wholesalers and retailers.

We believe that the cost of distribution for both manufacturers and wholesalers which the retailer eventually pays, can be cut down by,

1. Each distributor concentrating his sales in his own natural territory
2. Not selling what he doesn't carry in stock.
3. Reducing the variety of his stock to single lines confined to items for which there is a real use
4. And finally, by not rendering any service which is not worth what it costs to someone, and putting this to the acid test by passing on to that someone a charge for the full cost.

Show the Ex-Soldier Where You Stand—Decorate Your Window on November 11.

Don't forget to trim your windows with an appropriate arrangement for Armistice Day, November 11.

Many hardware dealers make it a regular practice to trim Armistice Day windows. As each November 11 passes, they know the boys who "went across" will look back with softened memories upon the greatest experience of their lives. It is decidedly good business to show

these protectors of the nation's honor—those soldiers of yesterday—just where you stand. They will appreciate it and in peace times it is almost the duty of retail dealers to make some demonstration of loyalty so that the people of the community so engrossed in personal affairs will stop to remember.

How Big a Job to Save Surface of All Property in United States?

This and hundreds of other similarly impressive headlines, with their stories of saving the surface, characterize the Coöperative Sales and Advertising Booklet of the Save the Surface Campaign for the first six months of 1924.

The "Dull Season Sales Drive" is clearly outlined in the booklet. The success of these drives depends largely on local effort and coöperation with the national advertising of the industry to put an end to dull seasons. Local paint and varnish interests everywhere must be sold the idea first, then be taught the plan. This book should do both—it is a mine of inspiration and contains suggestions for the carrying out of these plans.

Manufacturers and jobbers have been furnished, free of cost, a sufficient number of copies for all their executives and salesmen. Additional copies are available for distribution for manufacturers and jobbers to their distributors at the cost price of 7 cents each.

Midwinter Target Tournament to Be Held at Pinehurst, North Carolina, January 7 to 11, 1924.

The Pinehurst Gun Club has been authorized by the Amateur Trapshooting Association to hold the Seventeenth Annual Midwinter Target Tournament at the Pinehurst Country Club, Pinehurst, North Carolina, January 7 to 11, 1924.

There will be an entirely new program. The winner of the Midwinter Handicap is guaranteed \$350. All of the receipts above 3 cents a

target will be returned to the shooters and to this the management adds \$2,500 in cash and trophies.

The Amateur Trapshooting Association rules will govern this shoot and the scores will be included in the official records.

Who Is Manufacturer of "Hiawatha" Hog Oiler?

TO AMERICAN ARTISAN:

Who makes the "Hiawatha" hog oiler?

Yours very truly,

A. F. SCHEMMER.

—, Iowa, October 21, 1923.

Here's a Practice, Which if Observed Consistently, Will Save You Actual Money.

The following editorial reprinted from the *Illinois State Journal* by the *Chicago Tribune* Tuesday, July 10, 1923, can be read with profit by merchants and individuals alike:

"Taking the Discount:"

"Business men who are able to pay cash acquire a respectable savings in the course of the year. Discounts mount rapidly. Government is learning the lesson. It was a long time in waking up to it.

"According to the Federal Budget Bureau, the War Department has so thoroughly established the cash paying practice that it discounts more than ninety-nine per cent of all bills that are discountable. On a recent report to the Budget Bureau the department showed that, in all its divisions throughout the country, there were unpaid only 250 bills that were more than thirty days old.

"During the first ten months of the last fiscal year the department gained \$150,000 in discounts."

Bringing Potential Customers Into Your Store.

A very clever method of bringing potential customers into the store and one which could be, with some slight modifications, used in any hardware store, recently came to my attention.

A carefully prepared advertise-

ment inserted just inside the first page of the Chicago Tribune announced that for three of the coupons in the ad which appeared in the paper plus 98 cents the store would give away a \$4 dictionary.

Now it so happens that this store deals in writing materials, maps, etc. By making the offer in this manner, the store brought to it only habitual readers. People who read, also write and are, therefore, good prospects for writing material sales, just as carpenters and mechanics would be the best tool prospects.

The location of the counter where the coupons were redeemed was also strategic. Upon entering, the customer was directed toward the rear of the store. Here he fell in line and awaited his turn to be served. So far his one object has been to secure the said hammer or wrench, but, having this prize securely tucked away under his arm, he proceeds towards the exit.

Now, however, his mind is free, but he finds himself at the back end of the store and must walk its entire length before he can make his egress. He saunters along, his mind is free, and his eye falls on many familiar objects; these objects excite first a curiosity in his mind, he then picks many of them up, looks them over and is seized with a desire for possession. And, mind you, this entire psychological reaction has been brought about by one small advertisement, about 4x4 inches, inserted once, and some well arranged show cases. So far the salesman has done absolutely nothing but wrap up goods.

If there ever was anything like psychology in advertising, and I am not alone in my conviction that there is, here certainly is a concrete example of some unseen thinker delving into the mental processes of the minds owned by that portion of the populace which are potential prospective customers for that store. Think it over.

If you do not care to resort to advertising, you can still put this method into practice by making a careful selection from your current mailing list.

Coming Conventions

Western Retail Implement and Hardware Association, Missouri Theater Building, Kansas City, January 15, 16, 17, 1924. H. J. Hodge, Secretary-Treasurer, Abilene, Kansas.

The West Virginia Retail Hardware Association Convention and Exhibit, Huntington, West Virginia, January 15 to 18, 1924. James B. Carson, Secretary-Treasurer, 1001 Schwind Building, Dayton, Ohio.

Mountain States Hardware and Implement Association Convention, City Auditorium, Denver, Colorado, January 22-24, 1924. W. W. McAlister, Secretary-Treasurer, Boulder, Colorado.

Kentucky Hardware and Implement Association, Louisville, January 22-25, 1924. J. M. Stone, Secretary-Treasurer, 202 Republic Building, Louisville.

Indiana Retail Hardware Association, Inc., Convention and Exhibition, Cadle Tabernacle, January 29, 30, 31, February 1, 1924. G. F. Sheely, Secretary, Argos.

Illinois Retail Hardware Association, Hotel Sherman, Chicago, Illinois, February, 1924. Leon D. Nish, Secretary-Treasurer, Elgin, Illinois.

Nebraska Retail Hardware Association, Lincoln, Nebraska, February 5 to 8, 1924. George H. Dietz, Lincoln Nebraska, Secretary-Treasurer.

Wisconsin Retail Hardware Association Convention and Exhibition, Milwaukee Auditorium, February 6, 7, 8, 1924. George W. Kornely, Manager of Exhibits, 1476 Green Bay Avenue, Milwaukee. P. J. Jacobs, Secretary-Treasurer, Stevens Point.

Michigan Retail Hardware Convention and Exhibition, Grand Rapids, February 12, 13, 14, 1924. Karl S. Judson, Exhibit Manager, 248 Morris Avenue, Grand Rapids. A. J. Scott, Secretary, Marine City, Michigan.

Iowa Retail Hardware Association, Des Moines, Iowa, February 12, 13, 14 and 15, 1924. A. R. Sale, Secretary-Treasurer, Mason City, Iowa.

The Pennsylvania and Atlantic Seaboard Hardware Association, Incorporated, Convention and Exhibition at the Philadelphia Commercial Museum, Philadelphia, Pennsylvania, February 12, 13, 14 and 15, 1924. Sharon E. Jones, Secretary-Treasurer, Wesley Building, Philadelphia.

Ohio Hardware Association, Convention and Exhibition, Cincinnati, Ohio, February 19, 20, 21 and 22, 1924. James B. Carson, Secretary, 1001 Schwind Building, Dayton, Ohio.

New York Retail Hardware Association Convention and Exhibition, February 19, 20, 21, 22, 1924. Headquarters, McAlpin Hotel, and exhibition at Seventy-first Regiment Armory. John B. Foley, Secretary, 412-413 City Bank Building, Syracuse, New York.

New England Hardware Dealers' Association Convention and Exhibition, Mechanics' Building, Boston, February 20, 21, 22, 1924. George A. Field, Secretary, 10 High Street, Boston, Massachusetts.

North Dakota Retail Hardware Association Convention and Exhibition, Municipal Auditorium, Fargo, February 20, 21, 22, 1924. C. N. Barnes, Secretary, Grand Forks.

Michigan Sheet Metal and Roofing Contractors' Association, February 25 to

28, 1924, Hotel Kerns, Lansing. T. E. Eiderle, Secretary, 1121 Franklin Street, S. E., Grand Rapids, Michigan.

Missouri Retail Hardware Association Convention and Exhibition, Marquette Hotel, St. Louis, February 26, 27 and 28, 1924. F. X. Becherer, Secretary, 5106 North Broadway, St. Louis.

Minnesota Retail Hardware Association Convention and Exposition, St. Paul Auditorium, February 26, 27, 28, 29, 1924. C. H. Casey, Secretary, Jordan, Minnesota.

South Dakota Retail Hardware Association and Exposition, Coliseum Building, Sioux Falls, March 4, 5, 6, 7, 1924. C. H. Casey, Secretary, Jordan, Minnesota.

California Retail Hardware Implement Association Convention and Exhibition, Civic Auditorium, San Francisco, March 18, 19, 20, 21, 22, 1924. LeRoy Smith, Treasurer, 112 Market Street, San Francisco.

Southeastern Retail Hardware and Implement Association, composed of Alabama, Florida, Georgia and Tennessee. Convention and Exhibition, Atlanta, Georgia, May 27, 28, 29, 1924. Walter Harlan, Secretary, 701 Grand Theater Building, Atlanta.

Hardware Association of the Carolinas Convention, Wrightsville Beach, North Carolina, June 17, 18, 19, 1924. T. W. Dixon, Secretary-Treasurer, 717-718 Commercial Bank Building, Charlotte, North Carolina.

Retail Hardware Doings

Arkansas.

The Hamp Williams-Smith Hooper Hardware Company at Sheridan, has sold out their entire holdings to the W. F. Booker Hardware Company of Little Rock.

Florida.

Mr. E. L. Spahler is building a 30x 60 hardware store at Pine Castle.

Illinois.

A new hardware and paint store has been opened at 2620 East 75th Street, Chicago, by Bergquist Brothers.

H. C. Keil has sold his entire hardware store at 108 East Main Street, Beardstown, to Schuman and Guelker.

Indiana.

The Huffman Hardware store on West Broad Street, Newcastle, has been sold to Fred Elliott of Richmond.

Michigan.

Henry D. Seeley has purchased the interest of R. D. Bird in the Bird and Waters hardware store at Waters, at Holly.

The hardware firm of Cueny and Galbraith at Cheboygan has been dissolved, Mr. W. F. Cueny taking over the entire business.

Missouri.

A. A. McKee has disposed of his hardware stock at Princeton to J. F. J. Safrik.

Utah.

The Cedar Hardware Company of Cedar City has been incorporated with a capital stock of \$10,000. Incorporators are: Eugene Christensen, president; A. F. Jones, vice-president and general manager, and U. Ashton Jones, secretary-treasurer.

Spirit of Service Pervading and Revolutionizing Business Practices of Today.

New Epoch in History of Civilization and Human Progress Being Ushered In, Improving Business Efficiency, Says Magic Chef.

EVERY representative business house of today prides itself upon the ideals of service to which it closely adheres and jealously guards. There are many ways of expressing these ideals, but a letter of the American Exchange National Bank of New York City appearing in the November issue of *The Magic Chef*, the clever editorial sheet of the American Stove Company, St. Louis, Missouri, sets forth the "ideals of Service" very well as follows:

Service and Incentive

"Amid the din and confusion raised by the shoutings of political mountebanks and soothsayers, and because constructive good things have no news value, an unprecedented advance in business ethics and a growth of the idea of service as a duty as well as a justification of business leadership have been brought about without having attracted public notice, to say nothing of appreciation. In the ranks of enlightened business leadership these changes have been in process for nearly twenty years, and lately during the past two or three years they have been at work throughout the business world.

"We are told that the world needs a spiritual revival, that men must have something other than dollars to work for. Those who preach this idea have apparently been affected by the changes that are going on without knowing it and are crying for something that is already here. The business man's acceptance of the idea of service as the justification of this leadership is not an outgrowth of the war, or a temporary reaction resulting from the contemplation of war's horrors. As a standard as the ideal of business, this idea was set up by thinking business men long before there was any thought of war, but its power as a motive was never demonstrated

so fully as it was during the war itself. * * * * The business men of the country devoted themselves to winning the war with just the same spirit of sacrifice that moved the men who filled the trenches. They are not entitled to any credit for that, no more at least than the men who actually fought the war, and by the same token they are not entitled to any less; the service they rendered was the service they were best fitted for, both because of superior equipment for their particular tasks and because, being mostly below the physical efficiency line set by age, they were not the best men available for service in the field. They were not kept at home because they didn't want to go, but because the men at the head of the armed forces of the country did not want them as long as they could get better material. This rule was applied to the worker in the factory just as it was applied to the men at the head of the factory.

"The spirit of service which manifested itself among business men during the war did not have its inception in the war, but it has carried on since the war, is revolutionizing business practices, improving business efficiency, and is ushering in a new epoch in the history of civilization and human progress, which only relatively few have even sensed."

Fremont Stove Company Opens New York Office at 35 Warren Street.

H. B. Reppelto, Sales Manager of the Fremont Stove Company, Fremont, Ohio, announces the opening of the New York office of the Company, which will be located at 35 Warren Street, New York City, where a full line of samples and a sales organization will be perfected for the Metropolitan district. S.

Doblin, who is well acquainted with the buyers of household furnishings in the Metropolitan district, will be in charge of the sales at that point.

Check Up On Your Faults, Your Virtues Will Take Care of Themselves.

"Psychology," says the Secretary and Treasurer of the National Association of Credit Men, J. H. Tregoe, "has been defined 'the science of those immaterial characteristics and powers which direct the activities, physical and mental, of the individual. The psychology of the person is determined almost entirely by his environment.'

"What we do and how we act are governed by our psychology. If it is strong and rounded, we will be firm in the face of difficulties, composed in the face of trials, and patient in the face of painful experiences. We have frequently seen how foolish it is to lose our heads in a situation where there was really no danger or reason for alarm. Panics are psychological. They reflect disordered nerves and a great fear in the face of possible losses.

"Some years ago I passed through a valley of deep distress and was overwhelmed in it. Instead of standing firm, I surrendered and acted on purely temperamental impulses. The bad effect of it all has been largely suppressed, but will never be lost. It would reassert itself at almost any time if I were to relax the strong hand of my determination.

"Keeping his psychology right is of tremendous moment to every man who aspires to do good work and derive a real satisfaction from life. One of the important things is not to play up our virtues too strongly, and neglect our defects. Everyone should know his defects and keep his control over them firm. The virtues can take care of themselves.

"Environment helps determine what our psychology will be. If we keep our surroundings pleasant and congenial, read the books that help our reasoning power and give way in no sense to our passions, cultivate friends who by their whole-

someness and good sense will help us keep right, these are the environments that will tremendously help in developing the right psychology.

"No man is responsible for what he brings into the world, but every man is responsible for what he leaves in the world. Building ourselves is far more important than building fortunes. Moreover, a good individual psychology will help to bring about a good community psychology."

Manufacturers Announce New Lists, Effective November 1, Covering Stove and Sink Bolts.

The leading manufacturers announce new lists, effective November 1, 1923, on stove and sink bolts.

The principle changes over the old list are the elimination of the $\frac{1}{4}$ -inch lengths over three inches, and an advance in the list on longer lengths.

The discount on flat and round head stove bolts remain as before, but oven bolts, oval head counter-sunk stove bolts and band bolts, which are special and more costly to make, are quoted at a 10 per cent higher discount.

Weir Stove Company Enlarging Plant at Taunton, Massachusetts.

The Weir Stove Company, Taunton, Massachusetts, manufacturer of heating ranges and furnaces, has begun construction of a 140x160-foot foundry.

A modern 4-story, 77x78-foot structure has been added recently to the plant to be used for building gas ranges. Another recently added building is a 4-story structure 77x114 feet, to be used as a tin shop and for production of coal ranges and furnaces.

William Sard, Rathbone, Sard & Company, Aurora, Illinois, Dies at Pasadena, California.

The body of William Sard, once prominent in the social and club life of Chicago, is being brought back from Pasadena, California, where

he died Wednesday, October 31, at the age of 73 years.

Mr. Sard, a bachelor, came here half a century ago to open a western plant of the stove manufacturing firm of Rathbone, Sard & Company, Aurora, Illinois, founded by the father of Congressman Henry Rathbone. Mr. Sard was a charter member of Emanuel Baptist Church. Funeral services will be held Sunday afternoon, November 4, in Boydston's chapel, Chicago.

Why Not Quote a Few Prices in Your Advertisements?

There has been much said regarding the wasteful use of good advertising space. Advertising to be useful must be thought out and designed for a definite purpose. If you were going to advertise some object for sale in the want ad col-

lecting headline, placing the signature at the bottom. The address should never be separated from the signature.

The value of an illustration in the ad is so well recognized that it is rarely ever omitted.

Stove Displays and Accessories Should Be Actively Emphasized.

At this time considerable window space should be given to stove displays. Do not overcrowd the displays, and be sure to use attractive and catchy display cards to point out the special features of the stoves shown. Oil heaters also deserve some window displays, and large numbers of these small heaters can be sold if they are properly featured.

Stove accessories should not be forgotten. There is hardly a home

Sterenberg Bros. Hardware

STOVE DEPARTMENT

NEW STOVES

- 1—Sanica Range
- 1—Junger's Range
- 1—Banquet Darling
- 1—Garland Combination
- 2—Equity Gas Ranges
- 1—Tappan Gas Range

USED STOVES

- 1—Laurel Range
- 1—Universal Range
- 1—Princess Novelty Range
- 1—Regal Heater
- 1—Buck Heater
- 1—Quick Meal Gas Range

25 New Heaters which will be sold at bargain prices.
Stove Boards, Stove Rugs, Casters, Stove Pipe, Coal Hods,
etc., etc.

PHONE 3470

218-220 WOOD AVE.

The Addition of Prices Would Have Improved This Ad.

umns of a daily paper, you would most certainly give the price of that article. Chances are if you did not you would not get many inquiries.

The accompanying ad appeared in the Muskegon, Michigan *Chronicle*. Perhaps the store's patrons recognize the names of the stoves mentioned, but most likely they do not. It would indeed have been better to have told the prices of these stoves, then the ad would mean something.

Most advertisers prefer to introduce the subject with an attention

that is not in need of some article needed in connection with the heating system. It may be a coal shovel, a coal hod, ash sifter, ash can, stove lining, package of fire clay, stove board, flue stopper, collar, stove shovel, or any one of several dozen salable articles. In your anxiety to push the sale of stoves themselves, do not forget this potential but too often neglected demand for stove accessories. Many people are changing the location of their stoves, which generally brings a demand for stove pipe, etc.

No Other Quality in Your Advertising Can Make Up for the Lack of Sincerity and Truthfulness.

Good Advertising Helps You to Sell and Your Customer to Buy—Put the Best You Have Into It.

SIXTY Tons of Water from a Rain Drop! An astounding statement and still literally true. This introduction to the accompanying reprint from the Saginaw, Michigan, *News-Courier* is an exceedingly clever one, taking all the facts into consideration.

being in position throughout the year.

Anyone seeing this head is bound to stop and read on to find out what it is all about. Exaggeration of this sort serves very well for attracting attention. But the practice must be handled with extreme care.

The accompanying advertisement uses the headline to good advantage and gets attention immediately by giving the date on which the hunting season opens. The huntsman is

Sixty Tons of Water from a Rain Drop!

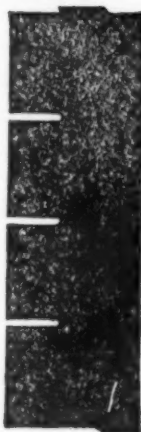
One shower—even one storm doesn't make this deluge. It's the rainfall of a whole year—a multiplied raindrop of 60 tons that **your roof must stand**. No cheap, inferior roofing can withstand it. And you can't afford to gamble on roofing of unknown quality. But you can depend on

Certain-teed and Nu-tile Roofing, '1.50 and Up



There is a liberal guarantee of years of satisfactory service with both. Both can be had in a fine assortment of different weights and varying prices.

- Nu-tile and Certain-teed Strip Shingles, green and red.
- Nu-tile and Certain-teed Shingles, green and red.
- Green Slate Surface Guard Roofing, 1-ply.
- Guard Roofing, 2-ply.
- Guard Roofing, 3-ply.
- Nu-tile and Certain-teed Roofing, 1-ply.
- Nu-tile and Certain-teed Roofing, 2-ply.
- Nu-tile and Certain-teed Roofing, 3-ply.
- Nu-tile and Certain-teed Roof Paint.



Certain-teed Plastic Cement, Certain-teed Tar Cement, Asbestos Roof Coating, Top Cement. A complete stock of Tar Felt, Building Paper, Red Rosin, Slaters' Felt, etc., etc.

718-22
Genesee
Avenue
Cor. Park.
Federal
307.

POPP
HARDWARE CO.

We Deliver
Anywhere
in the
City and
Suburban
Districts.

Advertisers as a rule do not appreciate the pulling power of a statement like this. It is arrived at by simply adding together the total rainfall for the entire year. The reader will say that the rain does not all fall at once, nevertheless the roof has to withstand it all.

With the coming of fall, also comes the hunter's delight and every wide-awake dealer will be on his toes getting all the information he can about the state game laws, as well as the latest wrinkles in guns, shells, duck boats, hunting togs, decoys, traps and luggage carriers.



November 10 Is the Date

Start hunting the elusive quail on that date. They are plentiful this year.

Get all your hunting togs, GUNS AND AMMUNITION AT SPORTSMAN'S HEADQUARTERS.

One of the largest displays of hunting equipment in the state.

THE FAMOUS DUXBAK HUNTING CLOTHES

REMINGTON, WINCHESTER, BAKER, HARRINGTON AND RICHARDSON GUNS.

SEMI-SMOKELESS SHELLS AT80c BOX
SMOKELESS SHELLS \$1.00

The Gus Habich Co.
142 E. Washington St.

brought to a halt when the command suddenly confronts him.

This is a piece of plain, simple copy, telling a simple story, but in such a way that it gets across; it tells the huntsman where he can find a sympathetic ear and where he can get reliable information and good supplies for the hunting season.

* * *

A face that cannot smile is seldom worth while.

Business Sentiment Undertone More Confident; Basic Conditions Are Sound; Liquid Capital in Abundance.

Non-Ferrous Metal Markets Somewhat Firmer—Foreign News More Cheerful—No Shading in Copper—Tin Advances $\frac{1}{4}$ Cent.

THE general business situation has not shown in the past month the pronounced change to greater activity that had been looked for in some quarters, and this has rather strengthened the sentiment that business is in a period of recession, the end of which is not yet in sight.

Fall trade is expected to be under full headway in October, and if recovery to anything like last Spring's optimism was to take place before next Spring, it should have appeared last month. As a matter of fact October was a disappointment to the optimists. However, the October reports of Montgomery Ward & Company and Sears Roebuck & Company are enlightening on this point.

Let it not be hinted that the American farmer is nearly "busted" when the two big Chicago mail order houses, which depend for a large share of their business on the agricultural community, can sell nearly \$38,000,000 of goods in a month. October sales of Montgomery Ward & Co. at \$15,165,652 were the highest of any month in the company's history and marked a gain of 47.4 per cent over October last year. Sales for the ten months ended with October also set a new record at \$105,469,411, an increase of 51.01 per cent over the corresponding period last year and exceeding by more than \$14,000,000 the previous high mark set in the boom year of 1920.

Sears, Roebuck & Company also made an excellent showing. October sales were \$22,576,793, an increase of 13.26 per cent over October, 1922. Sales for the ten months totaled \$174,327,540, a gain of 23.45 per cent over the corresponding period of 1922.

The volume of business was large, consumption continued on a

great scale, and although reports indicate that the labor situation is not strained, as it was at the opening of outdoor activities last Spring, they seldom mention unemployment. The disappointment has been in the fact that October did not give a new impetus to business and overcome the disposition manifest since last May, for traders to confine purchases to immediate needs.

That there is still a great hang-over of indebtedness from the boom period is true, and it is an oppressive influence, particularly upon the agricultural districts, but it does not make a critical situation in any general sense. There is plenty of liquid capital to handle the business of the country and no probability of the kind of pressure that forces goods or securities on the markets and causes widespread demoralization.

Copper.

The foreign news of the past week has contributed a little more cheerful sentiment to the metal markets, though the immediate market response has been slight, due to the realization that a long road must yet be traveled before European economic stability is reached.

Electrolytic copper prices broke from 12.87½ cents to 12.50 cents delivered, last week, under a wave of selling pressure which ended with the cables that told of the French consent to the application of the Hughes plan. This checked the decline, which extended throughout the list of copper and allied products. Rolled and drawn products prices were reduced on Friday ½ to 1 cent a pound. Casting copper sold down to 12.25 cents.

Tin

There was an active trading between dealers in the New York market October 30, but on the advance the trading seemed to have

flattened out. At the morning Call on the New York Metal Exchange 41.25 cents to 41.37½ cents was bid and 41.60 cents to 42 cents was asked but no business was done. Later on Straits for future deliveries was offered at 41.50 cents but buyers were unwilling to pay above 41.37½ cents.

The nominal quotation for prompt Straits is 41.75 cents but in special cases this has been shaded to 41.62½ cents.

The other grades of tin have also been advanced ¼ cent, making prompt Banka 41.50 cents, futures 41.25 cents and prompt 99 per cent 41.25 cents and futures 41 cents. The offerings of 99 per cent by importers are very light and if Japan continues to take the bulk of the Chinese output, and if the English smelters continue to run principally on the extra refined grade it may not be long before 99 per cent disappears from our market.

Lead.

The domestic lead market is not remarkably active. Buying continues at a hand to mouth rate, but the general situation appears to be healthy with little or no accumulation and producers mostly well booked ahead.

Quotations for prompt, October, November and December are 6.42½ to 6.47½ cents St. Louis.

Zinc.

There is little of interest in the zinc situation. Demand from consumers continues slack, but considering the small amount of business current the market holds fairly steady, though it is likely that the price generally named today for November Prime Western, 6.32½ cents, could be shaded on a bid. No buying interest is at present indicated in far off futures.

Quotations at East St. Louis are:

MORE than 2,500,000 people buy the Saturday Evening Post.

For many years ARMCO-Ingot Iron has been consistently advertised in full-page advertisements in this national medium. Below is reproduced a recent Post ad.

To the Post advertising of ARMCO-Ingot Iron has been added more than twenty leading business papers, all carrying full-page ads.

Hardware merchants find it good selling argument to bring ARMCO-Ingot Iron to the attention of their customers and get the benefit of Armco advertising, which has already paved the way to the sale.

The modern kitchen is bright with enamel

The progressive housewife knows that the lasting beauty of enamel depends on the purity of the iron beneath the surface

ONLY a few years ago "enamel" meant a kind of jewelry. Nowadays it means gleaming stoves and refrigerators, shiny table tops and tub covers. And it means a new ease and joy in housework.

Each year finds more and more enameled equipment being used by the modern woman, who buys things that retain their beauty.

Underneath the surface

The beauty secret of enamel is more than skin-deep. You cannot see beneath the surface, but the base on which the enamel is put is of great importance to you.

You can be positive of getting the finest kind of enameled equipment if you make sure the manufacturer of the article is using ARMCO Ingot Iron for a base. Here is why: ARMCO Ingot Iron is the purest iron made in commercial quantities. Its purity gives it great density and a velvety surface which tenaciously holds the enamel. The enamel lies with satin smoothness and retains its beauty.

When covered with zinc

The purity, density, and evenness that have made ARMCO Ingot Iron so widely acclaimed as a base for enameling enable it to take and to hold a coating of zinc ("galvanizing") that is smooth and lasts for years.

The zinc does not peel even when ARMCO Ingot Iron is bent and formed. You can rest assured of enduring service if your hot-water heater, your furnace drum, garbage pail, gutters, down spouting and other exposed sheet metal articles are made of zinc-coated ARMCO Ingot Iron.

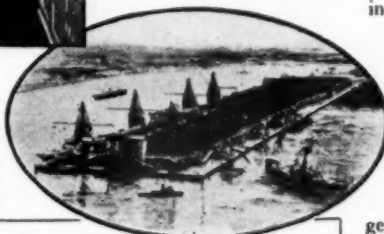
Iron's chief enemy

Zinc is put on merely as an added barrier against rust. ARMCO Ingot Iron is so pure



Enamel equipment, with a base of Armco Ingot Iron, makes for ease and pleasure in housework.

Cristobal cooling station, Panama Canal, in which and in the other canal cooling station at Balboa, nearly a million pounds of Armco Ingot Iron was used.



that it needs protection less than ordinary iron and steel.

For it is the impurities that cause metal to rust. When ordinary iron and steel are exposed to moisture, the impurities in the metal act as posi-

tive and negative poles, electrolytic action sets in, and corrosion starts its deadly work.

How modern science wins

Up to the beginning of the present century, high-purity iron was laboriously made by hand. Some of the articles of the ancients have come down, intact, to the present time.

Some twenty years ago we determined to find the scientific way to produce practically pure iron in commercial quantities.

We built a complete metallurgical laboratory, devised manufacturing methods, erected mills, acquired mines, and the result is ARMCO Ingot Iron, a product that is known the world over for its exceptional purity. (It contains less than 1% of rust-promoting impurities.)

Who uses it?

Not only have great industries pretty generally adopted ARMCO Ingot Iron for their own plants, but they also utilize it in innumerable articles they make for the public. Knowing its worth and its reputation they use ARMCO Ingot Iron in their wares and so label it in order that you will appreciate the fact.



Scene in Balance Room, Armco Research Laboratory.

You can easily tell it

The salespeople in progressive hardware, furniture, and department stores will gladly show you articles made of ARMCO Ingot Iron, and they will point out the label to you.

Likewise sheet metal men and dealers in building materials are happy to supply ARMCO Ingot Iron with the blue Armco triangle stenciled on the product.

Whenever you need anything of sheet metal and want the best, ask for ARMCO Ingot Iron, and identify it by the trademark. The brand stands for the kind of enduring quality that means a real saving in the end.



THE AMERICAN ROLLING MILL COMPANY, Middletown, Ohio

ARMCO

TRADE MARK

INGOT IRON

Resists Rust

WHERE TO LOOK FOR ARMCO Ingot Iron

Here are some of the everyday uses of ARMCO Ingot Iron:

WITHIN THE HOUSE

Stoves
Washing Machines
Garbage Cans
Ash Cans Pails
Refrigerators
Furnace Drums
Hot-Water Tanks
Table Tops
Tub Covers
Electric Light Reflectors

IN INDUSTRY

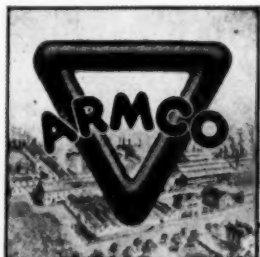
Welding
Smoke Stacks
Oil & Water Tanks
Acetylene Tanks
Freight Car Roofs
Coal Car Sidings
Drainage Systems
Car Heaters
Gasoline Tanks
Coal Tipples
Wire Fencing
Metal Doors
Grave Vaults
and Caskets
Culverts
Flumes
Farm Equipment
Boiler Tubes
and Pipes
Cold Rolled Strip
Cold Drawn Bars

IN BUILDING

Coping
Roofing
Siding
Flashing
Eaves Trough
Down Spouting
Skylights
Ventilating
Systems
Window Frames
Metal Lath

ARMCO STEEL SHEETS

Armco chemists and metallurgists, working in the most complete laboratory of its kind in America, have developed not only Armco Ingot Iron, but also Armco steel sheet specialties for the automobile, electrical and other industries. Leading automobile manufacturers use Armco steel sheets on account of their exceptional bending and drawing qualities. Armco steel electrical sheets are widely used because of their high permeability, low core loss, and non-aging qualities. The American Rolling Mill Company are makers of high-grade special sheets to meet the demands of exacting manufacturers. Technical information will be supplied to any manufacturer as to Armco products and their adaptability to any particular need.



Zinc-coated Armco Ingot Iron culvert being installed for Malacca Rubber Plantation, Ltd. Malacca, Malay Peninsula

Prompt, 6.30 to 6.35 cents; November, 6.30 to 6.35; December, 6.32½ to 6.37½ cents; January, 6.32½ to 6.37½ cents.

Solder.

Chicago warehouse prices on solder are as follows: Warranted, 50-50, 26.50; Commercial, 45-55, 25.75, and Plumbers', 24.50, all per 100 pounds.

Tin Plate.

Tin plate production continues to increase. From week to week the increase is barely perceptible, but by longer range comparisons it becomes somewhat impressive in the abstract, and it becomes very impressive in the concrete when it is considered that this is the time of year when tin plate production has always decreased instead.

There is no doubt now that the October rate of production is considerably above the September rate, perhaps 5 per cent above, and practically no doubt now remains that the quarter's output will be well above that of either the third quarter or the second quarter. All of this is unprecedented, so far as the memory of anyone in the trade goes.

The market itself presents the strongest argument, for it has been very strictly maintained on the \$5.50 basis and although here is but little current buying the mills are making no effort to press sales. The circumstantial evidence is that they do not need to, that their prospective output for the remainder of the year is in the majority of cases already well taken care of.

Sheets.

Additional sheet business has been placed and more is expected this week for reconstruction work in Japan. One interest booked slightly less than 20,000 tons of black sheets in the past week for Japan, and an inquiry from the Japanese government received from the embassy at Washington calls for 19,000 to 20,000 tons more. Now that Japan apparently is willing to take 30-gage and heavier material, foregoing its policy of buying only 30½ and 31-gage sheets, its busi-

ness is more attractive to American sheet makers. This is particularly true since the prices obtainable abroad are somewhat better than those on domestic business at the same market basis, 3.85 and 5.00 cents, base Pittsburgh, on black and galvanized, respectively. Quotations from at least one source, that of a sheet maker which recently started up new mills are \$2 to \$3 below these levels, 3.70 cents and 4.85 cents having been named on small lots of black and galvanized sheets.

One or two other makers are quoting 3.75 cents and 4.90 cents, base Pittsburgh, respectively.

Blue annealed remains firm at 3.00 cents, base Pittsburgh, although some resale sheets are reported to be offered here at 2.75 cents, base Pittsburgh, by a middle interest.

It is understood that these sheets were received in a trade for scrap. In the full-finished sheet market demand is good, with few suspensions. While one or two automobile companies or makers of automobile parts have asked that shipments

be held up for a short time, two or three others are urging that shipments be expedited to aid them with increased schedules.

While the general sheet mill operating average is around 80 per cent, the American Sheet & Tin Plate Company operated 86.2 per cent of its sheet mills last week, having a general hot mill average of 89 per cent. Its customers in diversified lines are specifying tonnage liberally.

Old Metals.

Wholesale quotations in the Chicago district, which should be considered as nominal, are as follows: Old steel axles, \$16.00 to \$16.50; old iron axles, \$24.00 to \$24.50; steel springs, \$18.50 to \$19.00; No. 1 wrought iron, \$12.00 to \$12.50; No. 1 cast, \$16.75 to \$17.25, all per net tons. Prices for non-ferrous metals are quoted as follows, per pounds: Light copper, 8½ cents; light brass, 5 cents; lead 4¼ cents; zinc, 3½ cents, and cast aluminum, 15 cents.

Pig Iron Purchasing in Volume Deferred; Some Furnaces Being Blown Out.

Trend of Prices Continues Downward—No. 2 Foundry Sold at \$22.50 Valley—Chicago Market Appears to Be at \$24.

“WHILE prospects are favorable, a waiting attitude is more apparent among both buyers and sellers of steel,” the Iron Trade says. “The volume of new business has increased moderately but it is considerably less than the tonnage being shipped off the books, causing some further curtailment. On the whole, consumption of steel continues large but buying lacks the stimulation of heavy new demands.”

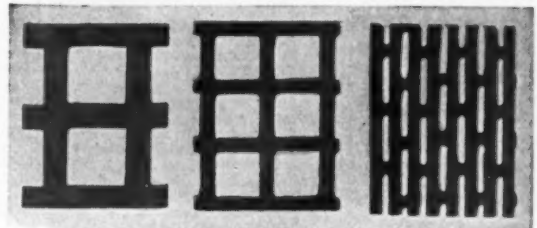
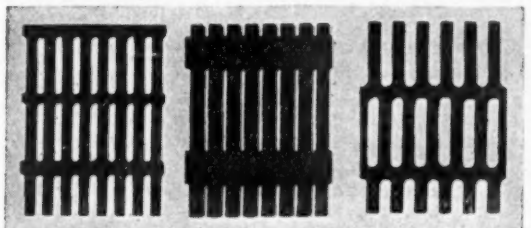
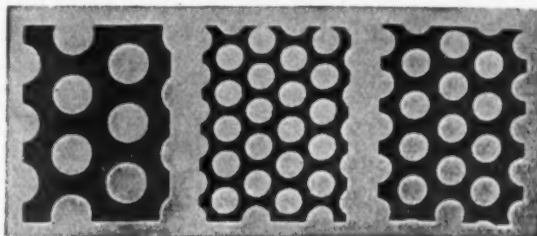
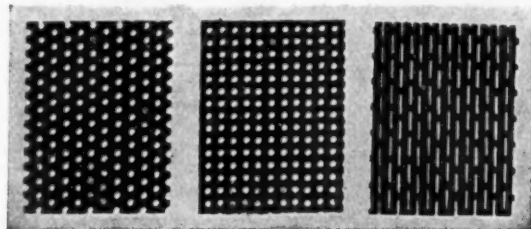
Another slump in pig iron this week has lowered prices \$1 further in the Chicago, southern Ohio and southern districts. Alabama iron is offered at \$19. Basic has been sold at \$22, valley. Buyers are moving slowly though the appearance in the market of some of the usually shrewdest of their number has caused comment.

Puddling wages in November and December will be 50 cents per ton less as the result of a drop of 10 cents per 100 pounds in the bi-monthly examination of bar iron sales. This is the first decline in eighteen months.

A large can manufacturer has placed 100,000 boxes of tin plate for December delivery with the leading producer and would take 200,000 boxes more for the same period if it were available. The demand for tin plate is active on all sides and the Steel Corporation mills this week ran at the highest rate of the present year.

Japanese buying calls for some important additional tonnages. One Pittsburgh maker received further orders the past week for about 20,000 tons of black sheets.

PERFORATED METALS



PERFORATED STEEL — COPPER — BRASS — BRONZE — ALUMINUM — ZINC — TIN PLATE
and all other metals

For Screening and Sizing STONE—GRAVEL—SAND—COAL—all minerals—GRAIN and ANYTHING TO BE SCREENED

For DRYING FLOORS AND DECKS
VENTILATORS—DRAINS, ETC.

Perforated Tin and
Brass always in stock

GRILLES—REGISTER FACES
and ORNAMENTAL SCREENS

THE HARRINGTON & KING PERFORATING CO.

5649 FILLMORE STREET, CHICAGO, ILLINOIS, U. S. A.

New York Office: 114 Liberty Street

*The Best Eaves Trough
Miter in the
World*

Ask
your Jobber for
CHAMPION MITERS & ENDS
~all Dependable Products~

CHAMPION
PRODUCTS

BRADEN MFG. CO. TERRE HAUTE
INDIANA

Memorial Monuments

Write for Prices and
Illustrations

Gerock Bros. Mfg. Co.

Sheet Metal Ornaments
and
STATUARY

1252 So. Vandeventer Ave.
St. Louis, Mo., U. S. A.

IN MEMORY

Your Standard
of Comparison
should be

"As Soft

as an

**INLAND
SHEET"**

INLAND STEEL COMPANY

38 South Dearborn St., Chicago

Works:

Indiana Harbor, Ind.
Chicago Heights, Ill.

Branch Offices

Milwaukee St. Louis
St. Paul

Current Hardware and Metal Prices.

AMERICAN ARTISAN AND HARDWARE RECORD is the only publication containing Western Hardware and Metal prices corrected weekly.

METALS

| PIG IRON. | | |
|---------------------|----|-------------|
| Chicago Foundry... | 24 | 00 |
| Southern Fdy. No. 2 | 25 | 01 to 26 01 |
| Lake Sup. Char-coal | 30 | 04 |
| Malleable | 24 | 00 |

FIRST QUALITY BRIGHT TIN PLATES.

| | Per Box |
|---------------------|---------|
| IC 14x20 112 sheets | \$12 45 |
| IX 14x20 | 14 05 |
| IXX 14x20 56 sheets | 17 57 |
| IXXXX 14x20 | 18 12 |
| IC 14x20 112 sheets | 27 50 |
| IX 20x28 | 29 85 |
| IXX 20x28 56 sheets | 16 15 |
| IXXXX 20x28 | 17 20 |
| IXXXX 20x28 | 18 25 |

TERNE PLATES.

| | Per Box |
|-----------------------------|---------|
| IC 20x28, 40-lb. 112 sheets | \$25 60 |
| IX 20x28, 40-lb. | 28 50 |
| IX 20x28, 30-lb. | 21 80 |
| IX 20x28, 30-lb. | 24 70 |
| IX 20x28, 25-lb. | 20 80 |
| IX 20x28, 25-lb. | 23 70 |
| IX 20x28, 20-lb. | 18 30 |
| IV 20x28, 20-lb. | 21 15 |
| IC 20x28, 15-lb. | 17 05 |
| IC 20x28, 12-lb. | 15 75 |
| IC 20x28, 8-lb. | 14 05 |

COKE PLATES.

| | |
|----------------------------------|---------|
| Cokes, 80 lbs., base, 20x28 | \$13 85 |
| Cokes, 90 lbs., base, 20x28 | 14 10 |
| Cokes, 100 lbs., base, 20x28 | 14 45 |
| Cokes, 107 lbs., base, IC 20x28 | 14 85 |
| Cokes, 135 lbs., base, IX 20x28 | 17 40 |
| Cokes, 155 lbs., base, 56 sheets | 9 75 |
| Cokes, 175 lbs., base, 56 sheets | 10 65 |
| Cokes, 195 lbs., base, 56 sheets | 11 70 |

BLUE ANNEALED SHEETS.

| | |
|------|---------------------|
| Base | per 100 lbs. \$3 50 |
|------|---------------------|

ONE PASS COLD ROLLED BLACK.

| | |
|-----------|---------------------|
| No. 18-20 | per 100 lbs. \$4 50 |
| No. 22-24 | per 100 lbs. 4 55 |
| No. 26 | per 100 lbs. 4 60 |
| No. 27 | per 100 lbs. 4 65 |
| No. 28 | per 100 lbs. 4 70 |
| No. 29 | per 100 lbs. 4 75 |

GALVANIZED.

| | |
|-----------|---------------------|
| No. 16 | per 100 lbs. \$5 10 |
| No. 18-20 | per 100 lbs. 5 25 |
| No. 22-24 | per 100 lbs. 5 40 |
| No. 26 | per 100 lbs. 5 55 |
| No. 27 | per 100 lbs. 5 70 |
| No. 28 | per 100 lbs. 5 85 |
| No. 30 | per 100 lbs. 6 35 |

BAR SOLDER.

| | |
|-------------|----------------------|
| Warranted. | |
| 50-50 | per 100 lbs. \$26 50 |
| Commercial. | |
| 45-55 | per 100 lbs. 25 75 |
| Plumbers | per 100 lbs. 24 50 |

ZINC.

| | |
|----------|--------|
| In Slabs | \$6 35 |
|----------|--------|

SHEET ZINC.

| | |
|-------------------------------|-------|
| Cask lots, stock, 100 lbs. | 11 00 |
| Less than cask lots, 100 lbs. | 11 50 |

BRASS.

| | |
|----------------------|---------|
| Sheets, Chicago base | 19c |
| Mill Base | 17c |
| Tubing, brazed, base | 25c |
| Wire, base | 17 1/2c |

COPPER.

| | |
|------------------------------|---------|
| Sheets, Chicago, base | 20c |
| Mill base | 19 1/2c |
| Tubing, seamless, base | 23c |
| Wire, No. 9 & 10 B. & S. Ga. | 17 1/2c |
| Wire, No. 11, B. & S. Ga. | 17 1/2c |

LEAD.

| | |
|--------------|------|
| American Pig | 7 45 |
| Bar | 8 45 |

| | |
|------------|--------------------|
| Sheet. | |
| Full Coils | per 100 lbs. 10 75 |
| Cut Coils | per 100 lbs. 11 75 |

TIN.

| | |
|---------|----------------------|
| Pig Tin | per 100 lbs. 42 1/2c |
| Bar Tin | per 100 lbs. 44 1/2c |

HARDWARE, SHEET METAL SUPPLIES, WARM AIR HEATER FITTINGS AND ACCESSORIES.

ADZES.

| | |
|-----------|-----|
| Coopers'. | |
| Barton's | Net |
| White's | Net |

AMMUNITION.

| | |
|----------------------------------|---------|
| Shells, Loaded, Peters. | |
| Loaded with Black Powder 18% | |
| Loaded with Smokeless Powder | 18% |
| Winchester. | |
| Smokeless Repeater | |
| Grade | 20 & 4% |
| Smokeless Leader | |
| Grade | 20 & 4% |
| Black Powder | 20 & 4% |
| U. M. C. | |
| Nitro Club | 20 & 4% |
| Arrow | 20 & 4% |
| New Club | 20 & 1% |
| Gun Wads—per 1000. | |
| Winchester 7-8 gauge 10 & 7 1/4% | |
| " 9-10 gauge 10 & 7 1/4% | |
| " 11-12 gauge 10 & 7 1/4% | |

ASBESTOS.

| | |
|--|-----------------|
| Paper up to 1/16 | 6c per lb. |
| Rollboard | 6 1/2c per lb. |
| Millboard 3/32 to 1/4 | 6c per lb. |
| Corrugated Paper (255 sq. ft. to roll) | \$6.00 per roll |

AUGERS.

| | |
|---------------------------|----------|
| Boring Machine | 40 & 10% |
| Carpenter's Nut | 50% |
| Hollow. | |
| Stearns, No. 4, doz. | \$11 50 |
| Post Hole. | |
| Iwan's Post Hole and Well | 25% |
| Vaughan's, 4 to 9 in. | \$15 60 |

AXES.

| | |
|--|---------|
| First Quality, Single Bitted (unhandled, 3 to 4 lb., per doz.) | \$14 00 |
| Good Quality, Single Bitted, same weight, per doz. | 13 00 |

BAR, CROW.

| | |
|----------------------|-------|
| Steel, 4 ft., 10 lb. | \$ 30 |
| Steel, 5 ft., 18 lb. | 1 40 |
| Pinch bars. | |
| 5 1/2 ft., 24 lb. | 1 60 |

BAR, WRECKING.

| | |
|-----------------|--------|
| V. & B. No. 12 | \$0 34 |
| V. & B. No. 24 | 0 43 |
| V. & B. No. 32 | 0 57 |
| V. & B. No. 38 | 0 48 |
| V. & B. No. 330 | 0 63 |

BITS.

| | |
|-------------------------------|-------|
| All Vaughan and Bushnell. | |
| Screw Driver, No. 30, each | \$ 27 |
| Screw Driver, No. 1, each | 16 |
| Reamer, No. 80, each | 41 |
| Reamer, No. 100, each | 41 |
| Countersink, No. 13, each | 29 |
| Countersink, Nos. 14-15, each | 37 |

BLADES, SAW.

| | |
|---------------|----------------------|
| Wood. | |
| Atkins 30-in. | |
| Nos. | 6 40 26 |
| | \$5 90 \$9 45 \$5 40 |

BLOCKS.

| | |
|--------|-----|
| Wooden | 45% |
| Patent | 45% |

BLOW TORCHES (See Firepots).

BOARDS.

| | |
|--------------|----------|
| Stove. | Per Doz. |
| Crystal, 33" | 23 00 |

| | |
|--------------------------------|-----------------|
| Wash. | |
| No. 760, Banner Globe (single) | per doz. \$5 25 |
| No. 652, Banner Globe (single) | per doz. 6 75 |
| No. 801, Brass King | per doz. 8 25 |
| No. 860, Single—Plain Pump | 6 25 |

BOLTS.

| | |
|---|-----------|
| Carriage, Machine, etc. | |
| Carriage, cut thread, 1/2 x 6 and sizes smaller | 50-5% |
| shorter | 50-5% |
| Carriage sizes, larger and smaller and shorter | 40-10% |
| Machine, 1/2 x 4 and sizes smaller and shorter | 50-10% |
| Machine, sizes larger and longer than 1/2 x 4 | 50-2 1/2% |
| Stove | 70-5% |

BRACES, RATCHET.

| | |
|-----------------------|--------|
| V. & B. No. 444 8 in. | \$4 54 |
| V. & B. No. 222 8 in. | 3 89 |
| V. & B. No. 111 8 in. | 3 55 |
| V. & B. No. 11 8 in. | 3 02 |

BRUSHES.

| | |
|----------------------------|--------|
| Hot Air Pipe Cleaning. | |
| Bristle, with handle, each | \$0 85 |
| Flue Cleaning. | |
| Steel Only, each | \$1 25 |

BURRS.

| | |
|-------------------|-----|
| Copper Burrs only | 40% |
|-------------------|-----|

BUTTS.

| | |
|--|--------|
| Steel, antique copper or dull brass finish—case lots—3 1/2 x 3 1/4—per dozen pairs | \$3 48 |
| 4 x 4 | 4 74 |

| | |
|---|---------|
| Heavy Bevel steel inside sets, case lots— | |
| per dozen sets | \$ 8 00 |

| | |
|---------------------------------------|------|
| Steel bit keyed front door sets, each | 2 00 |
|---------------------------------------|------|

| | |
|---|------|
| Wrought brass bit keyed front door sets, each | 4 00 |
|---|------|

| | |
|--------------------------------|-------|
| Cylinder front door sets, each | \$ 50 |
|--------------------------------|-------|

CEMENT, FURNACE.

| | |
|--------------------------------|-------------------|
| American Seal, 5 lb. cans, net | \$ 45 |
| " 10 lb. cans, | 90 |
| " 25 lb. cans, | 3 00 |
| Asbestos, 5 lb. cans | 45 |
| Pecora | per 100 lbs. 7 51 |

CHAINS.

| | |
|----------------------------|---------|
| Sher. Steel Safety Chain. | |
| 500-ft. coil, per ft. | .02 |
| 100 to 500 ft., per ft. | .02 1/2 |
| Less than 100 ft., per ft. | .03 |
| Iron Jack Chain. | |
| Box (12 yds.) | 45 |

CHIMNEY TOPS.

| | |
|------------------------------|-----------|
| Iwan's Complete Rev. & Vent. | 30% |
| Iwan's Iron Mountain only | 35% |
| Standard | 30 to 40% |

CHISELS.

| | |
|-------------------------------|--------|
| Cold. | |
| V. & B. No. 25, 1/4 in., each | \$0 26 |
| V. & B. No. 25, 1/2 in., each | 41 |

| | |
|-------------------------|------|
| Diamond Point. | |
| V. & B. No. 55, 1/4 in. | 0 31 |
| V. & B. No. 55, 1/2 in. | 0 48 |

| | |
|-------------------------|------|
| Round Nose. | |
| V. & B. No. 65, 1/4 in. | 0 29 |
| V. & B. No. 65, 1/2 in. | 0 40 |

| | |
|-------------------------|------|
| Socket Firmer. | |
| V. & B. No. 50, 1/4 in. | 0 31 |
| V. & B. No. 50, 1/2 in. | 0 57 |

CHUCKS, DRILL.

| | |
|--|------------------|
| Goodell's, for Goodell's Screw Drivers | List less 35-40% |
| Yankee, for Yankee Screw Drivers | 35 00 |

CLAMPS.

| | |
|-------------------------|---------|
| Adjustable. | |
| No. 100, Door (Stearns) | |
| doz. | \$32 00 |

| | |
|-------------------------------|--|
| Carpenters'. | |
| Steel Bar—List price plus 20% | |

| | |
|-----------------------------------|-----------------|
| Hose. | |
| Sherman's brass, 1/4-inch | per doz. \$0 48 |
| Double, brass, 1/4-inch, per doz. | 1 20 |

CLINKER TONGS

| | |
|------------------|--------|
| Front Rank, each | \$1 75 |
| Per doz. | 1 85 |

CLIPS.

| | |
|----------------------------------|--------|
| Damper. | |
| Acme, with tall pieces, per doz. | \$1 24 |
| Non Rivet tall pieces, per doz. | 30 |

COPPERS—Soldering. Pointed Roofing.

| | |
|-------------------|-------------|
| 3 lb. and heavier | per lb. 40c |
| 2 1/2 lb. | 40c |
| 2 lb. | 40c |
| 1 1/2 lb. | 40c |
| 1 lb. | 40c |

CORD.

| | |
|---------------------------|---------|
| No. 7 Std. per doz. banks | \$10 25 |
| No. 8 | 12 00 |

CORNICE BRACKES.

| | |
|------------------------|-----|
| Chicago Steel Bending. | |
| Nos. 1 to 6 B. | 10% |

COUPLINGS, HOSE.

| | |
|-------|-----------------|
| Brass | per doz. \$1 25 |
|-------|-----------------|

CUT-OFFS

| | |
|---|-----|
| Kuehn's Korrekt Kutoffs: | |
| Galv., plain, round or cor. rd Standard gauge | 40% |
| 26 gauge | 10% |

DAMPERS.

| | |
|------------------------|--------|
| "Yankee" Hot Air. | |
| 7 inch, each 20c, doz. | \$1 75 |
| 8 " " 25c, " " | 2 40 |
| 9 " " 30c, " " | 3 75 |
| 10 " " 32c, " " | 4 00 |

| | |
|--------------|-------|
| Smoke Pipe. | |
| 7 inch, each | \$ 35 |
| 8 " " " | 40 |
| 9 " " " | 45 |
| 10 " " " | 50 |
| 12 " " " | 60 |

| | |
|-------------------|--------|
| Reversible Check. | |
| 8 inch, each | \$1 00 |
| 9 " " " | 1 70 |

DIGGERS.

| | |
|------------------------------|------------------|
| Post Hole. | |
| Iwan's Split Handle (Eureka) | |
| 4-ft. Handle | per doz. \$14 00 |
| 7-ft. Handle | per doz. 36 00 |
| Iwan's Hercules pattern, | |
| per doz. | 14 00 |

DRILLS.

| | |
|-------------------------------|-------|
| V. & B. Star, 12-inch Length. | |
| 3/4, 5/16 and 1/2, each | \$ 25 |
| 1/2, each | 30 |
| 1, each | 54 |
| 1 1/4, each | 81 |
| V. & B. Star, 18-inch Length. | |
| 5/16 and 1/2, each | \$ 30 |
| 1/2, each | 41 |
| 1, each | 60 |
| 1 1/4, each | 1 00 |

EAVES TROUGH.

| | |
|-------------------------|-----|
| Milcor | |
| Galv. Crimpedge, crated | 75% |

ELBOWS—Conductor Pipe.

| | |
|--|-----|
| Milcor | |
| Galv., plain or corrugated, round flat | |
| Crimp, Std. gauge | 65% |
| 26 Gauge | 40% |
| 24 Gauge | 10% |

| | |
|--------------------|-----|
| Square Corrugated. | |
| Milcor | |
| Standard gauge | 45% |
| 26 gauge | 30% |

| | |
|---|---------|
| Partice Elbows. | |
| Standard Gauge Conductor Pipe, plain or corrugated. | |
| Not nested | 70 & 55 |
| Nested solid | 70 & 55 |

ELBOWS—Stove Pipe.

| | |
|------------------------------|--------|
| 1-piece Corrugated. Uniform. | Doz. |
| 5-inch | \$1 40 |
| 6-inch | 1 00 |
| 7-inch | 8 30 |

| | |
|---------------------|--------|
| Special Corrugated. | Doz. |
| 5-inch | \$1 40 |
| 6-inch | 1 00 |
| 7-inch | 8 30 |

AREX

These advertisements sell your work. Arex advertising is buying large sales every day—more men to know Arex superiority. Supply these better ventilators in your next job—you make a larger profit and build a reputation. Write for sample ads and the latest Arex catalog.

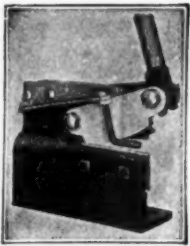
AREX COMPANY

J. C. Kernchen, Pres.
1581 Conway Building, Chicago

THE ORIGINAL SIPHONAGE VENTILATOR

CHICAGO STEEL SLITTING SHEAR

**LIGHT—POWERFUL
DURABLE**



Capacity 10 gauge sheets
Any Length or Width
Flat Bars 3/16 x 2"
Weight 22 pounds

Price \$12.50 Net

F. O. B. Chicago

Made of pressed steel and equipped with hold-down. Blades of highest grade crucible steel. Most indispensable high grade shears made. Equal to other shears selling at over twice the price.

ORDER YOURS TODAY

DREIS & KRUMP MFG. CO., 2915 S. Halsted St., Chicago

This is as fine an ear as can be made. Perfect, fine finish and nicely tinned. Write today for samples.



**BERGER'S
WROUGHT
STAR EARS**

Furnished in gross boxes or in bulk to suit the purchaser

We can furnish sizes 20, 30 & 40 stamped from sheet brass.

No. 40

Write today for our catalog which illustrates our complete line of ears

BERGER BROS. CO.

229 to 237 ARCH STREET
WAREROOMS AND FACTORY: 100 to 114 BREAD STREET
PHILADELPHIA, PA.

CORTRIGHT METAL SHINGLE

Hand-Dipping Gives Shingles a Heavier Coating

These shingles are first formed of prime roofing tin. Then each is dipped separately in a bath of molten zinc. Edges are covered as well as sides. We also make shingles from tight-coated sheets and of tin. The latter we paint red or green as preferred.

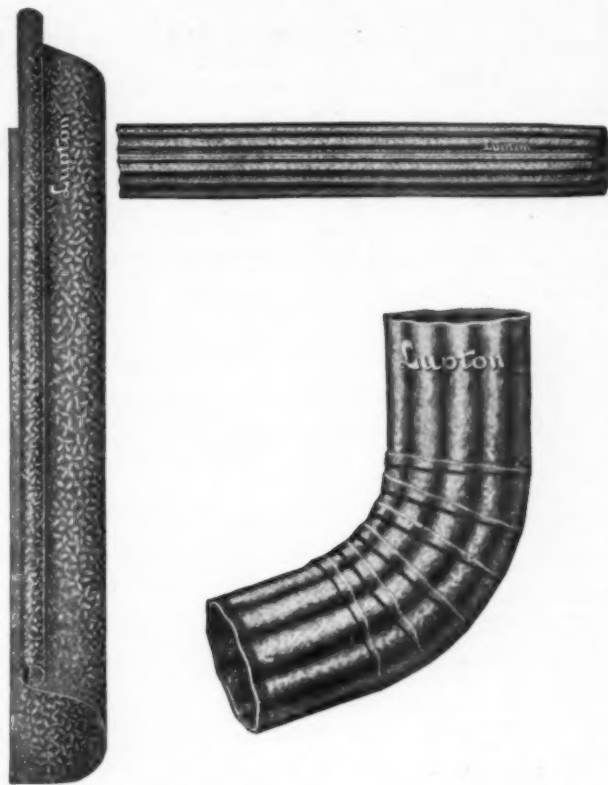
If you are not familiar with Cortright Metal Shingles we will be glad to tell you about them and to send our booklet concerning that roof.

CORTRIGHT
Philadelphia

METAL ROOFING CO.
Chicago

STANDARD

SINCE 1887



Lupton

**Elbows, Conductor Pipe,
Eaves Trough, etc.**

CUT out the time lost in trying to do a good job with poor materials. Lupton's Elbows are machine made, in one piece: they never vary in size, girth or shape. The Conductor Pipe and Eaves Trough are so made that but minimum labor is needed to erect them properly.

A well-erected job speaks for itself. Get to know the Lupton line—ask for new catalogue and list prices. Made from Armco Iron, Toncan Metal, Horse Head Zinc, copper and galvanized steel.

Order from your jobber.
Tell us if he doesn't stock it.

David Lupton's Sons Company
Allegheny Avenue and Tulip Street
Philadelphia

Lupton
INVESTMENT VALUE

| Uniform, Collar Adjustable. | |
|-----------------------------|-------------|
| 5-inch | Doz. \$2 60 |
| 6-inch | Doz. 3 10 |
| 7-inch | Doz. 3 60 |

WOOD FACES—50% off list.

| FENCE. | |
|-------------|-------------|
| Field Fence | Doz. \$4 50 |
| Lawn | Doz. 5 50 |

| FILES AND RASPS. | |
|---------------------|---------------|
| Holler's (American) | Doz. \$5-50 |
| American | Doz. 5-50 |
| Acade | Doz. 60 & 100 |
| Black Diamond | Doz. 50-50 |
| Eagle | Doz. 60-100 |
| Great Western | Doz. 60 & 100 |
| Kearney & Foot | Doz. 60 & 100 |
| McClellan | Doz. 60 & 100 |
| Nicholson | Doz. 50-14 |
| Simonds | Doz. 60 |

| FIRE POTS. | |
|--|---------|
| Ashton Mfg. Co. | |
| Complete line | |
| Firepots and Torches | 52% |
| Otto Berns Co. | |
| No. 1 Furn. Gasolene with large shield, 1 gal. | \$ 6 75 |
| No. 3 Furn. Kerosene, 1 gal. | 15 12 |
| No. 10 Brazier, Kerosene or Gasolene, 10 gals. | 47 52 |
| No. 5 Torch, Gasolene or Kerosene, 1 pt. | 7 92 |
| No. 33 Torch, Gasolene, 1 quart | 5 40 |
| No. 36 Torch, Gasolene, 1 pt. | 4 05 |

Clayton & Lambert's.
East of west boundary line of Province of Manitoba, Canada, No. Dakota, So. Dakota, Nebraska, Kansas, Oklahoma, Amarillo, San Angelo and Laredo, Texas.
West of above boundary line. 48%

| | |
|---|---------|
| Geo. W. Diener Mfg. Co. | Ea. |
| No. 02 Gasolene Torch, 1 qt. | \$ 5 55 |
| No. 0250, Kerosene or Gasolene Torch, 1 qt. | 7 50 |
| No. 10 Tinner's Furn. Square tank, 1 gal. | 12 60 |
| No. 15 Tinner's Furn. Round tank, 1 gal. | 12 00 |
| No. 21 Gas Soldering Furnace | 3 60 |
| No. 110 Automatic Gas Soldering Furnace | 10 50 |

| | |
|--------------------------------------|-----|
| Double Blast Mfg. Co. | |
| Gasolene, No. 25 and 35 | 60% |
| Quick Meal Stove Co. | |
| Vesuvius, F.O.B. St. Louis | 30% |
| (Extra Discot. for large quantities) | |

| | |
|----------------------|---------|
| Chas. A. Hones, Inc. | |
| Buzzer No. 1 | \$ 9 00 |
| " " 2 | 12 00 |
| " " 22 | 13 50 |
| " " 42 | 15 00 |
| " " 43 | 19 00 |

| FREEZERS—ICE CREAM. | |
|---------------------|--------|
| Pearless and Alaska | |
| 1 quart | \$2 95 |
| 2 quart | 3 45 |
| 3 quart | 4 10 |
| White Mountain | |
| 1 quart | \$3 50 |
| 1 quart | 4 90 |
| 2 quart | 5 70 |

| GALVANIZED WARE. | |
|----------------------------|--------|
| Pails (Competition), 8 qt. | \$1 89 |
| 10-qt. | 2 15 |
| 12-qt. | 2 35 |
| 14-qt. | 2 65 |
| Wash tubs, No. 1 | \$6 75 |
| No. 2 | 7 25 |
| No. 3 | 8 75 |

| GARAGE DOOR HARDWARE. | |
|-----------------------|---------|
| Stanley | All net |

| GAUGES. | |
|------------------------|------|
| Marking, Mortise, etc. | Nets |
| Wire. | |
| Disston's | 25% |

| GIMLETS. | |
|----------|-------------|
| Discount | 65% and 10% |

| GLASS. | |
|-------------------------------------|-----------|
| Single Strength, A and B, all sizes | \$3 & 85% |
| Double Strength, A, all sizes | 84% |

| GREASE, AXLE. | |
|-------------------------|------------------|
| Fragers | |
| 1-lb. tins, 36 to case, | per case \$ 4 70 |
| 3-lb. tins, 24 to case, | per case 7 80 |
| 5-lb. tins, 12 to case, | per case 7 20 |
| 10-lb. tins, per dozen | 10 40 |
| 15-lb. tins, per dozen | 13 80 |
| 25-lb. tins, per dozen | 19 80 |

HAMMERS, HANDLED.

| All V. and B. | |
|---------------------------------------|--------|
| Each, net | |
| Blacksmiths' Hand, No. 0, 26-oz. | \$1 00 |
| Engineers' No. 1, 26-oz. | 1 00 |
| Farrier's, No. 7, 7-oz. | 93 |
| Machinists', No. 1, 7-oz. | 73 |
| Nail. | |
| Vanadium, No. 41, 20-oz. each | 1 45 |
| Vanadium, No. 41 1/2, 16-oz. each | 1 45 |
| V. & B., No. 11 1/2, 16-oz. each | 1 04 |
| Garden City, No. 11 1/2, 16-oz., each | 87 |
| Tinner's Riveting, No. 1, 8-oz., each | 83 |
| Shoe, Steel, No. 1, 18-oz., each | 65 |
| Tack. | |
| Magnetic. | |
| No. 5, 4-oz., each | 72 |

HAMMERS, HEAVY.

| | |
|------------------------|-----|
| Farrier's | 30% |
| Mason's | |
| Single and Double Face | 50% |

| HANDLES. | |
|----------------------------|------|
| Axe. | |
| Hickory, No. 1...per doz. | 4 00 |
| Hickory, No. 2...per doz. | 3 00 |
| 1st quality, second growth | 6 00 |
| Special white, 2nd growth | 5 00 |

| Chisel. | |
|----------------------------------|-----------------|
| Hickory, Tanged, Firmer Assorted | per doz. 55c |
| Hickory, Socket, Firmer Assorted | per doz. 70c |
| File | per doz. \$1 20 |
| Hammer and Hatchet. | |
| No. 1 per doz. | \$0 90 |
| Second growth hickory, per doz. | 1 50 |

| Soldering. | |
|------------|--------|
| Per doz. | \$2 40 |

| HANGERS. | |
|--|---------|
| Conductor Pipe. | |
| Milcor Perfection Wire | 25% |
| Eaves Trough. | |
| Steel hangers | 30% |
| Triple Twist wire | 10% |
| Milcor Eclipse Wire | 20% |
| Milcor Triplex Wire | 15% |
| Milcor Milwaukee Extension | 15% |
| Milcor Steel (galv. after forming) List plus | 12 1/2% |
| Milcor Sellock E. T. Wire, List plus | 40% |

HASPS.

| | |
|-----------------------------------|--|
| Hinge, Wrought, with staples, Net | |
|-----------------------------------|--|

| HATCHETS. | |
|--------------------------|--------|
| V. and B. Supersteel. | Each |
| Broad, No. 1, 24-oz. | \$1 43 |
| Half, No. 1, 15-oz. | 1 25 |
| Half, No. 2, 27-oz. | 1 37 |
| Claw, No. 1, 19-oz. | 1 31 |
| Flooring, No. 1, 20-oz. | 1 43 |
| Shingling, No. 1, 17-oz. | 1 20 |
| Lathing, No. 1, 14-oz. | 1 20 |
| Lathing, No. 2, 17-oz. | 1 25 |

| Vanadium Steel. | |
|--|--------|
| Half, No. 62, 22-oz. | \$1 82 |
| Underhill Pattern Lathing, 9 row, 19-oz. | 2 29 |

| HINGES. | |
|--------------------------|--------|
| Heavy Strap, in Bundles. | |
| 4 inch, dozen prs. | \$1 12 |
| 5 " " " " | 1 57 |
| 6 " " " " | 1 93 |
| 8 " " " " | 2 31 |

| Extra Heavy T in Bundles. | |
|---------------------------|--------|
| 4 inch, dozen prs. | \$1 74 |
| 5 " " " " | 1 85 |
| 6 " " " " | 2 31 |
| 8 " " " " | 3 97 |

HOES.

| | |
|--------|-----|
| Garden | Net |
|--------|-----|

HOOKS.

| Box. | |
|---|--------|
| V. and B. No. 9, each | \$0 26 |
| Conductor. | |
| Milcor | |
| "Direct Drive" Wrought Iron for wood or brick | 15% |
| Cotton. | |
| V. and B. No. 3, each | 24 |
| Hay. | |
| V. and B. No. 1, each | 26 |

| Bar Meat. | |
|------------------------------|------|
| V. and B. No. 26, 1/4", each | 09 |
| V. and B. No. 21, 1/4", each | 16 |
| Screw Meat. | |
| V. and B. No. 1, per gro. | 6 50 |
| Butchers' "G." | |
| V. and B. No. 6, each | 08 |
| V. and B. No. 8, each | 11 |

| HOSE. | |
|----------------------|-------------------|
| Per. Ft. | |
| 1/2-in. 2 ply molded | 3 1/4c to 13 1/4c |
| 3/4-in. cord | 3 1/4c to 10c |
| 1-in. wrapped | 13 1/4c |

| HUMIDIFIERS. | |
|-------------------------|--------|
| "Front-Rank" Automatic. | |
| In single lots | 50% |
| In lots of 10 or more | 50-50% |
| In lots of 25 or more | 50-10% |
| Vapor pans, etc., each | 50% |

| IRONS. | |
|--|--------|
| Sad. | |
| Genuine Mrs. Potts, nickel plated, per set | \$1 55 |
| Asbestos No. 70, per set | 2 10 |
| Asbestos No. 100, per set | 2 30 |
| E. C. Stearns'. | |
| No. OA Corner, doz. sets | \$2 50 |
| No. OB " " " " | 2 75 |

| KNIVES. | |
|---------------------------------|-----|
| Butcher. | |
| Beechwood Handles, 6-inch blade | 25% |
| Beechwood Handles, 7-inch blade | 25% |
| Beechwood Handles, 3-inch blade | 25% |
| Cooper's Hoop. | 25% |
| Drawing. | |
| Standard | 25% |
| Adjustable | 25% |
| Barton's Carpenters' | 25% |

| HAY. | |
|-----------------------|-----|
| Iwan's Solid Socket | 25% |
| Heath's | 25% |
| Iwan's Sickle Edge | 25% |
| Iwan's Imp'd Serrated | 25% |
| Hedge. | |
| Challenge | 25% |
| Disston's No. 1 | 25% |
| Putty. | |
| Common | 25% |
| Lander's | 25% |
| Scraping. | |
| Beech Handles | 25% |
| Lander's | 25% |

| KNOBS. | |
|-----------|-----------------|
| Door. | |
| Mineral | per doz. \$2 00 |
| Porcelain | 2 00 |
| Jet | 2 00 |

| LADDERS. | |
|-----------------------------|-----|
| Step. | |
| Common, per ft. | 28c |
| Common, with Shelf, add 10c | |
| IXL | 34c |
| Challenge, 6 to 9 ft. | 55c |
| 10 to 16 ft. | 60c |
| Kant-Break, per lineal ft. | 75c |

| LANTERNS. | |
|------------------------------------|---------|
| Per doz. | |
| Monarch tin, hot blast | \$ 8 25 |
| Diets No. 2, cold blast | 13 00 |
| Best tubular | 8 25 |
| Competition lanterns No. 0 tubular | 6 90 |

LAWN MOWERS.

| | |
|------------------------------|--------|
| Ball Bearing. | |
| 4 blade, adjustable bearing. | |
| 14" | \$7 50 |
| 16" | 7 80 |

| LEATHER BELTING. | |
|------------------------------|-----|
| From No. 1 Oak Tanned Butts. | |
| Extra heavy, 18-oz. | 35% |
| Heavy, 16-oz. | 40% |
| Medium, 14 1/2-oz. | 40% |
| Light, 13-oz. | 50% |

LEATHER LACING.

| | |
|---------------------|-----|
| Cut, strictly No. 1 | 45% |
|---------------------|-----|

| LEVELS. | |
|------------------------|---------|
| Disston, No. 28 Asst. | \$23 00 |
| " No. 13, 30 in., each | 1 83 |
| " No. 22, 24 in., each | 1 40 |
| " Shafting, 6 in. | 1 40 |
| " 6 in. gr. glass | 24 20 |
| " No. 1 Asst. | 5 75 |
| " No. 3 Asst. | 13 40 |
| " 24-36 in., each | 1 93 |
| " 35-50 in., each | 1 00 |

| LIFTERS. | |
|--------------|-----------------|
| Stove Cover. | |
| Coppered | per gro. \$4 00 |
| Alaska | 4 75 |

| LOCKS. | |
|------------------|------------------|
| Barn Door. | |
| No. 60 Stearns'. | per doz. \$11 00 |
| No. 80 " " | 20 00 |

| MALLET. | |
|----------------------------|----------------------|
| Carpenters'. | |
| Fibre Head No. 2, per doz. | \$13 00 |
| " No. 3, " " | 15 50 |
| " No. 3 1/2, " " | 20 50 |
| Round Hickory | per doz. \$3 00—5 00 |
| Tinner's. | |
| Hickory | per doz. \$2 25 |

| MATS. | |
|---------------------|-------------|
| Door. | |
| National Rigid | 5 & 10 & 5% |
| Acme Steel Flexible | 50% |

| MITRES. | |
|--|-----|
| Galvanized steel mitres, and caps, end pieces, outlets | 20% |
| Milcor | |
| Galv. one piece stamped | 40% |

| MOPS. | |
|--------------------------------|---------|
| Cotton, Star (Cut Ends). | |
| Pounds 12' 15' 18' 24'-3-oz. | |
| Per doz. \$4 00 4 35 5 50 7 00 | |
| Enterprise | 16% |
| Parker | 50 & 5% |

| NAILS. | |
|---------------|--------|
| Cut Steel | \$4 70 |
| Cut Iron | 4 70 |
| Wire. | |
| Common | 3 50 |
| Cement Coated | 3 40 |

| NETTING, POULTRY. | |
|---------------------------|--------|
| Galvanized before weaving | 45-10% |
| Galvanized after weaving | 45% |

| NIPPERS. | |
|----------------|-----|
| Nail Cutting. | |
| V. & B. No. 30 | 78c |
| Double Duty. | |
| V. & B. No. 60 | 78c |

| HOOF. | |
|----------------------|----------|
| Heller's | 40 & 10% |
| V. & B. No. 52, each | \$2 31 |

| NOZZLES. | |
|----------|-----------------|
| Hose. | |
| Magic | per doz. \$9 50 |
| Diamond | 5 75 |

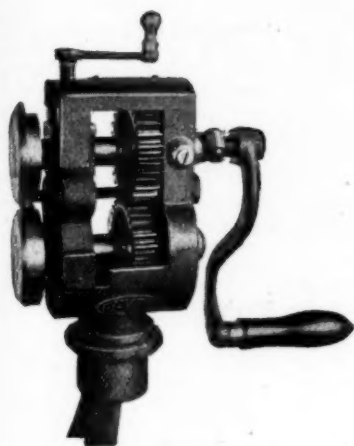
| OILERS. | |
|------------------|---------|
| Chase Pattern. | |
| Brass and Copper | 10% |
| Zinc Plated | 40 & 5% |

| RAILROAD. | |
|---------------|---------|
| Brass | 20 & 5% |
| Coppered | 50 & 5% |
| Steel. | |
| Copper Plated | 70 & 5% |

| OPENERS. | |
|------------|-----------------|
| Delmonico | per doz. \$1 50 |
| Never Slip | 65 |

| CRATE. | |
|---------|-----------------------|
| V. & B. | per doz. \$7 25—11 00 |

PEXTO SHEET METAL WORKING MACHINES PEXTO



Wiring Machine
Columbian Pattern

POPULAR FAVOR FOR MACHINES OR TOOLS CAN RUN
EITHER IN THE MINORITY OR THE MAJORITY.

Howard R. Malin, of West Chester, Pa., writes:

"Have been a Pexto advocate for years.
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favor of other makes the evidence in favor
of Pexto is in the majority."

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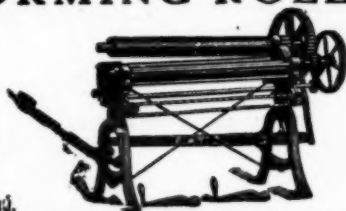
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Patented Opening Device by
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and closed in a few seconds.

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Punches, all sizes, for hand or belt power
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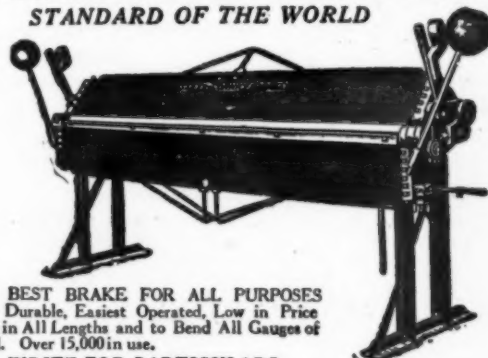
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Metal. Over 15,000 in use.

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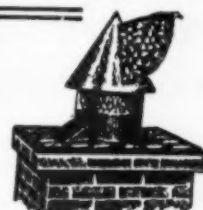
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"THE STANDARD"

VENTILATOR and CHIMNEY CAP

DOES away with high stacks, swings freely in the
slightest breeze and positively cures down-drafts. The
strongest and most efficient combination to be had. Has
no equal for chimney purposes. All jobbers sell them—
write your jobber or us for prices and catalog today.

Manufactured by
STANDARD VENTILATOR CO.
LEWISBURG, PA.



Plecker's Galvanized Eave Trough and Corrugated Expanding Conductors

Made of
Keystone
Copper Bearing
Steel



Cost no more
Lasts longer
Therefore
Cheapest

CLARK-SMITH HARDWARE CO. - - PEORIA, ILLINOIS

| FAILS. | |
|-----------------------|--|
| Cream. | |
| 14-qt. without gauge, | |
| per doz. \$9 50 | |
| 18-qt. without gauge, | |
| per doz. 11 00 | |
| 20-qt. without gauge, | |
| per doz. 11 75 | |

| | |
|----------------------------------|--|
| Sap. | |
| 10-qt., IC Tin...per doz. \$4 00 | |
| 12- " " " " 5 50 | |

| Stock. | |
|-----------------------------------|--|
| Galv. qts. 14 16 18 30 | |
| Per doz. \$9 75 10 75 12 75 14 50 | |

| Water. | |
|---------------------------|--|
| Galvanized qts. 10 12 14 | |
| Per doz. \$5 75 6 50 7 25 | |

| PASTE | |
|----------------------------|--|
| Asbestos Dry Paste: | |
| 200-lb. barrel.....\$15 00 | |
| 100-lb. barrel.....8 00 | |
| 35-lb. pail.....3 25 | |
| 10-lb. bag.....1 00 | |
| 5-lb. bag.....55 | |
| 2 1/2-lb. cartons.....30 | |

| PINNERS. | |
|----------------------------------|--|
| All V. & B. | |
| Carpenters', cast steel, | |
| No. 6.....6 8 10 12 | |
| Each \$0 45 \$0 52 \$0 61 \$0 71 | |
| Blacksmiths', No. 10.....\$0 64 | |

| PIPE. | |
|-------------------------------|--|
| Conductor. | |
| "Interlock" Galvanized. | |
| Crated and nested (all | |
| gauges).....60-20% | |
| Crated and not nested | |
| (all gauges).....60-15% | |
| Square Corrugated A and B and | |
| Octagon. | |
| 20 Gauge.....60-10% | |
| 22 ".....60-10% | |
| 24 ".....60-10% | |

| | |
|---------------------------------|--|
| "Interlock." | |
| Crated and nested (all | |
| gauges).....60-20% | |
| Prices for Galvanized Toncan | |
| Metal Genuine O. H. Iron, Lyon- | |
| more Metal and Keystone C. B. | |
| on application. | |

| Stove. | |
|----------------------------|--|
| Per 100 joints. | |
| 20 gauge, 5 inch E. C. | |
| nested.....\$17 00 | |
| 20 gauge, 6 inch E. C. | |
| nested.....18 00 | |
| 20 gauge, 7 inch E. C. | |
| nested.....19 00 | |
| 22 gauge, 5 inch E. C. | |
| nested.....15 00 | |
| 22 gauge, 6 inch E. C. | |
| nested.....16 00 | |
| 22 gauge, 7 inch E. C. | |
| nested.....18 00 | |
| 20 gauge, 5 inch E. C. | |
| nested.....12 00 | |
| 20 gauge, 6 inch E. C. | |
| nested.....14 00 | |
| 20 gauge, 7 inch E. C. | |
| nested.....16 00 | |
| T-Joint Made up. | |
| 6-inch.....per 100 \$40 00 | |

| Furnace Pipe. | |
|-----------------------------------|--|
| Double Wall Pipe and | |
| Fittings.....33 1/2% | |
| Single Wall Pipe, Round | |
| Pipe Fittings.....33 1/2% | |
| Galvanized and Back | |
| Iron Pipe, Shoes, etc.....33 1/2% | |
| Mileor Galvanized.....40% | |

| PLANES. | |
|----------------------------|--|
| Stanley Iron Bench.....Net | |

| PLIERS. | |
|-----------------------------|--|
| (V. & B.) | |
| Net, No. 2, each.....\$2 60 | |
| " No. 1, each.....64 | |
| " No. 2 1/2, each.....69 | |
| Gas, No. 7, each.....55 | |
| " No. 3, each.....61 | |
| " No. 12, each.....87 | |
| Linna or Crimping. | |
| No. 25, each.....64 | |
| Button's Pattern. | |
| No. 6 each.....61 | |
| No. 8 each.....74 | |
| Double Duty, No. 100.....50 | |

| POINTS, GLAZIERS. | |
|------------------------------------|--|
| No. 1, 3 and 3...per doz pkgs. 55c | |

| POKERS, STOVE. | |
|---------------------------|--|
| Wrt Steel, str't or bent, | |
| per doz. \$0 75 | |
| Nickel Plated, coll | |
| handles....." 1 10 | |

| POKERS, FURNACE. | |
|------------------|--|
| Each.....\$0 50 | |

| PULLEYS. | |
|------------------------------------|--|
| Furnace Tackle.....per doz. \$0 60 | |
| Per gross.....0 00 | |
| " Screw (en- | |
| cased).....per doz. \$0 55 | |

| Ventilating Register. | |
|--------------------------|--|
| Per gross.....\$0 00 | |
| Small, per pair.....0 30 | |
| Large, per pair.....0 50 | |

| PUNCHES. | |
|--|-------|
| Machine. | Each. |
| V. & B., No. 11-13, 1 1/4 x 8.....\$0 19 | |
| V. & B., No. 20, 1 1/2 x 9.....27 | |
| V. & B., No. 10, 1 1/2 x 10.....29 | |
| V. & B., No. 1-8, 1 1/4 x 8.....13 | |

| Center. | |
|---------------------------------------|--|
| V. & B., No. 50, 1 1/4 x 4.....\$0 14 | |

| Belt. | |
|---------------------------------|--|
| V. & B., No. 101-103.....\$0 24 | |
| V. & B., No. 108-109.....33 | |
| V. & B., No. 25, asst.....3 20 | |

| Samson Line. | |
|--------------|-------------------|
| No. 1 Hand | Doz. lots or |
| | less.....40% |
| No. 2 Hand | 3 doz. lots |
| | Less 40 & 5% |
| No. 4 Hand | 6 doz. lots or |
| | more.....Less 50% |

| | |
|-------------|-------------------|
| No. 3 Bench | Less than doz. |
| | lots.....Less 25% |
| | Doz. lots or |
| | more.....Less 40% |

| Extra Punches and Dies for Samson: | |
|------------------------------------|----------------------|
| No. 1 Hand | Less than doz. |
| | lots.....Less 25% |
| No. 2 Hand | Doz. lots |
| | Less 33 1/2% |
| No. 4 Hand | 3 doz. lots, |
| | or more.....Less 40% |
| No. 3 Bench | 6 doz. lots |
| | or more, |
| | Less 40 & 10% |

| PUTTY. | |
|---------------------------|--|
| Commercial Putty, 100-lb. | |
| kits.....\$2 55 | |

| QUADRANTS. | |
|-------------------------------|--|
| Malleable Iron Damper.....10% | |

| FLOOR REGISTERS AND BORDERS. | |
|----------------------------------|--|
| Cast Iron.....20% | |
| Steel and Semi-Steel.....33 1/2% | |
| Baseboard.....33 1/2% | |
| Adjustable Ceiling | |
| Ventilators.....33 1/2% | |
| Register Faces—Cast and Steel | |
| Japanned, Bronzed and Plated, | |
| 4x6 to 14x14.....33 1/2% | |
| Large Register Faces—Cast, | |
| 14x14 to 38x42.....60% | |
| Large Register Faces—Steel, | |
| 14x14 to 38x42.....65% | |

| ROOFING. | |
|---------------------------------------|--|
| Per Square | |
| Best grade, slate surf. prep'd \$1 85 | |
| Best tale surfaced.....2 20 | |
| Medium tale surfaced.....1 50 | |
| Light tale surfaced.....95 | |
| Red Rosin Sheeting, per ton \$72 00 | |

| ROPE. | |
|--|--|
| Cotton. | |
| Steel. | |
| 1st Quality, base 13 1/2 c to 14 1/2 c | |
| No. 2.....12 1/2 c | |
| Manila. | |
| 1st Quality standard | |
| brands.....16 1/2 c | |
| No. 2.....15 1/2 c | |
| Hardware Grade, per lb.....13 1/2 c | |

| SAWS. | |
|---------------------------------|--|
| Butchers'. | |
| Atkins No. 2, 14-in.....\$12 75 | |
| " No. 2, 18-in.....14 20 | |
| " No. 7, 16-in.....15 35 | |
| " No. 2, 22-in.....15 32 | |
| " No. 7, 20-in.....18 05 | |
| " No. 7, 24-in.....20 20 | |
| " No. 7, 28-in.....22 25 | |

| Compass. | |
|---------------------------------|--|
| Atkins No. 2, 10-in.....\$ 5 45 | |
| " No. 10, 10-in.....5 40 | |
| " Blades, No. 2, 10-in. 3 25 | |
| " " No. 2, 10-in. 3 20 | |

| Cross-Cut. | |
|---------------------------------|--|
| Atkins No. 221, 4 ft.....\$3 05 | |
| " No. 221, 6-ft.....4 45 | |
| " No. 221, 8-ft.....6 07 | |

| Hand. | |
|---------------------------|--|
| Copper Burrs only.....30% | |
| " No. 26, 20-in.....21 70 | |

| Hand and Rip. | |
|----------------------------------|--|
| Atkins No. 54, 20-in.....\$19 50 | |
| " No. 54, 26-in.....24 40 | |
| " No. 52, 18-in.....18 10 | |
| " No. 52, 20-in.....22 90 | |
| " No. 52, 24-in.....26 00 | |
| " No. 52, 28-in.....31 45 | |
| " No. 52, 30-in.....34 15 | |

| Keyhole. | |
|---------------------------------|--|
| Atkins No. 1, complete.. \$3 10 | |
| " No. 2, complete.. 3 70 | |

| Miter Box. | |
|--------------------------------|--|
| Atkins No. 1, 4x10.....\$22 65 | |
| " No. 1, 5x12.....28 00 | |
| " No. 1, 6x12.....42 20 | |

| Framing. | |
|----------------------------------|--|
| Atkins No. 20, 12-in.... \$ 8 45 | |
| " No. 10, 16-in.... 18 15 | |

| Wood. | |
|----------------------------|--|
| Atkins No. 202.....\$ 7 19 | |
| " No. 218.....8 75 | |
| " No. 205.....15 50 | |
| " No. 1509.....16 55 | |

| SCRAPERS. | |
|--------------------------------|--|
| Box. | |
| No. 6, six blades each.... 25c | |
| Hog. | |
| No. 6, each.....25c | |
| Floor (Stearns). | |
| No. 10, each.....\$11 50 | |

| SCREEN DOOR HINGES. | |
|-----------------------------|--|
| Cast Iron.....gross \$13 00 | |
| Steel....." 9 50 | |

| SCREWS. | |
|----------------------|--|
| Wood. | |
| F. H. Bright.....30% | |
| R. H. Blued.....75% | |
| F. H. Jap'd.....74% | |
| F. H. Brass.....76% | |
| R. H. Brass.....74% | |

| Sheet Metal. | |
|--|--|
| No. 7, 1/2 x 1/4, per gross.....\$0 55 | |
| No. 10, 1/2 x 3/16, per gross. 75 | |
| No. 14, 1/2 x 1/4, per gross. 90 | |

| SCREW DRIVERS. | |
|---------------------------|--|
| Uncle Sam Standard Head. | |
| 3 inches, each.....\$ 45 | |
| 5 inches, each.....52 | |
| 8 inches, each.....68 | |
| 12 inches, each.....1 02 | |
| Uncle Sam Insulated Head. | |
| 3 inches, each.....\$ 49 | |
| 5 inches, each.....57 | |
| 8 inches, each.....74 | |
| 12 inches, each.....1 14 | |

| SETS. | |
|------------------------------|--|
| Nail. | |
| V. & B. | |
| No. 100, in cardboard | |
| boxes.....doz. \$1 55 | |
| No. 100, in wooden boxes, | |
| doz. 1 58 | |
| No. 30, assorted.....doz. 39 | |
| No. 5, in cardboard boxes, | |
| doz. 1 25 | |
| No. 5, in wooden boxes, | |
| doz. 1 30 | |

| Rivet. | |
|-----------------------|--|
| V. & B. | |
| Farmers'.....\$0 10 | |
| Tanners' 3-4.....0 40 | |
| " 00-0.....0 50 | |

| Saw. | |
|----------------------------------|--|
| Atkins No. 10.....per doz. 13 80 | |
| " No. 12....." 4 20 | |

| SHEARS. | |
|-------------------------------------|--|
| Per Doz. | |
| Nickel Plated, Straight, 6" \$12 30 | |
| " " " " 7" 14 85 | |
| " " " " 8" 16 80 | |
| Japanned, Straight.....6" 11 00 | |
| " " " " 7" 12 40 | |
| " " " " 8" 13 80 | |

| SHEARS, TINNERS' & MACHINISTS. | |
|--------------------------------|--|
| Viking.....\$22 00 | |

| Lennox Throatless. | |
|------------------------------|--|
| No. 18.....35% | |
| Shear blades.....10% | |
| (f.o.b. Marshalltown, Iowa.) | |

| Peerless Steel Squaring. | |
|---------------------------------|--|
| Foot Power. | |
| No. 1—20", 18 ga. cap.....15% | |
| No. 2—26", 18 ga. cap.....15% | |
| No. 4—52", 18 ga. cap.....15% | |
| No. 10—120", 22 ga. cap.....15% | |
| No. 4A—52", 16 ga. cap.....15% | |

| Cast Iron Foot Power. | |
|---------------------------------|--|
| No. 01, 30", 18 ga. cap.....15% | |

| Power Driven. | |
|----------------------------------|--|
| (No. 100 Series, 2 Shaft Drive.) | |
| No. 142—42", 18 ga. cap.....15% | |
| (No. 200 Series, 2 Shaft Under- | |
| neath Drive.) | |
| No. 242—42", 14 ga. cap.....15% | |

| | |
|----------------------------------|--|
| (No. 300 Series, 3 Shaft Under- | |
| neath Drive.) | |
| No. 342—42", 10 ga. cap.....15% | |
| No. 372—72", 10 ga. cap.....15% | |
| (No. 500 Series, 3 Shaft Under- | |
| neath Drive.) | |
| No. 596—96", 16 ga. cap.....15% | |
| (No. 600 Series, 3 Shaft Under- | |
| neath Drive.) | |
| No. 6120—120", 3/16" cap.....15% | |

| SHINGLES. | |
|-----------------------------|--|
| Per Square | |
| Zinc (Illinois).....\$18 00 | |

| SHOES. | |
|-----------------------------------|--|
| Galv. Std. Gauge, Plain or | |
| corg. round flat crimp.....65% | |
| 26 gauge round flat crimp.....40% | |
| 24 gauge round flat crimp.....10% | |
| Conductor.....65% | |

| SHOVELS AND SPADES. | |
|-----------------------------|--|
| Coal. | |
| Hubbard's. | |
| No. A B C D | |
| 1 \$16 00 15 10 14 45 13 70 | |
| 2 16 35 15 00 14 35 14 20 | |
| 3 16 75 16 00 16 25 14 45 | |
| 4 17 10 16 35 16 60 14 85 | |

| Post Drains & Ditching. | |
|---------------------------------|--|
| Hubbard's. | |
| Size A B C | |
| 14".....\$17 15 \$16 40 \$15 05 | |
| 16".....17 50 16 75 16 00 | |
| 18".....17 85 17 10 16 35 | |
| 20".....18 20 17 45 16 70 | |
| 22".....18 55 17 80 17 05 | |

| Alaska Steel. | |
|------------------------------|--|
| D-Handle.....per doz. \$3 50 | |
| Long Handle....." 3 00 | |

| SIFTERS. | |
|---------------------------------|--|
| Genuine Hunters, doz.....\$2 50 | |

| SKATES. | |
|---------------------------------|--|
| Ice, Men's and Boys'. | |
| Per Pair | |
| Key Clamp—rocker—bright | |
| finish.....\$ 75 | |
| Key Clamp—rocker—nickel | |
| finish.....1 10 | |
| Key Clamp—rocker—pol. | |
| steel.....1 30 | |
| Key Clamp—Hockey.....1 25 | |
| Skate outfit.....4 75 | |
| Women's and Girls'. | |
| 1/2 Key Clamp—rocker.....\$1 25 | |
| " " " " " " 1 35 | |
| Ice Skate outfit.....5 00 | |
| Roller. | |
| Ball Bearing—Boys'.....\$1 50 | |
| Ball Bearing—Girls'.....1 00 | |

ART METAL CEILINGS AND SIDE WALLS

QUALITY—DURABILITY—BEAUTY

Are thoroughly combined in **FRIEDLEY-VOSHARDT ART METAL CEILINGS AND SIDE WALLS**. We have added to our list a great number of new and handsome designs. Special designs can be made if desired. Only the **best** of materials used. We are prepared to serve **you**. Ceiling Catalog No. 33 on request.

DONT DELAY—WRITE TODAY

FRIEDLEY-VOSHARDT CO.

Office: 733-737 S. Halsted St. Factory: 761-771 Mather Street
CHICAGO, ILLINOIS



No. 25 DOUBLE BLAST
Tinners' Fire Pot

"Every User a Satisfied User" DOUBLE BLAST Gasoline Burning FIRE POTS

You waste no heat or fuel when you use them because the **TWO** hot blast flames are forced to the center of the burner. The fuel always burns with a blue flame.

Our **No. 25 DOUBLE BLAST FIRE POT** shown here-with is guaranteed to heat soldering irons **TWICE AS FAST** as any other fire pot made, and with **ONE-HALF** the gasoline the others use.

This is an excellent fire pot and one that will stand up under hard use. We would be glad to give you more information and prices on this and other models.

Write for our illustrated catalog today
DOUBLE BLAST MFG. CO.
NORTH CHICAGO, ILL.



REQUIRES ONLY HEAT

CHICAGO SOLDER COMPANY
4201 Wrightwood Ave., CHICAGO, ILL.

C. G. HUSSEY & CO.
Rolling Mills and Office, PITTSBURGH, PA.

Manufacturers of
SHEET COPPER, BOTTOMS, ROLL COPPER, TINNED AND
POLISHED COPPER, NAILS, SPIKES, RIVETS, CONDUCTOR
PIPE, EAVES TROUGH, ELBOWS, SHOES, MITRES, ETC.
Branch Warehouses in New York, Chicago and St. Louis



No. 208 Torch
Ask for Latest
Price

The Best Torch for Zero Weather

No. 208 Double Needle Torch is dependable under all conditions of wind and weather. Powerful Burner produces over 300 degrees more heat. Burns low grade fuels without clogging, as the Upper Needle clears the gas orifice. Both Needles are blunt which protects the Burner from injury. No. 208 will outlast two ordinary Torches. Jobbers supply at factory prices. Get a catalogue.

Clayton & Lambert Mfg. Co.
10635 Knodell Ave. DETROIT, MICH., U.S.A.

VESUVIUS

Blow Torches and Stoves



For gasoline

have an extremely powerful flame. They are made of the best material that can be obtained and their construction insures long serviceability.

**Write for Descriptive
Circular Today**



For Coal Oil

QUICK MEAL STOVE CO.

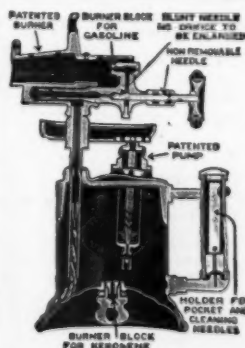
Div. American Stove Company
825 Chouteau Avenue St. Louis, Mo.



**WE want more Jobbing Dis-
tributors to supply the in-
creasing demand for Torrids.**
Write today.



Geo. W. Diener Mfg. Co., Chicago, Ill.



PREPARE FOR COLD WEATHER

Look over your stock of **TORCHES AND FURNACES NOW**. If it is not complete, place an order **AT ONCE** so you will have the tools on hand when your customers need them.

You should purchase some reliable make so your customers can obtain satisfactory results. Order the **"ALWAYS RELIABLE"** torches and furnaces which are practical, economical, and durable.

**PATENTED—No. 79 Torch, Quart.
No. 80 Torch, Pint.**

Gasoline-kerosene with removable hook.

Jobbers can supply at factory prices.

OTTO BERNZ CO., Inc. NEWARK, N. J.
Established 1876.

**Manufacturers of Torches, Furnaces
and Plumbers' Tools**

SNIPS, TINNERS'.

| | |
|-------------|----------|
| Clover Leaf | 40 & 10% |
| National | 40 & 10% |
| Star | 50% |
| Milcor | Net |

SQUARES.

| | |
|---------------------------------------|-----------------|
| Steel and Iron | Net |
| (Add for bluing, \$3.00 per doz. net) | |
| Mitre | " |
| Try | " |
| Try and Bevel | " |
| Try and Mitre | " |
| Fox's | per doz. \$6.00 |
| Winterbottom's | 10% |

STAPLES.

| | |
|----------------------------|---------------------|
| Blind. | |
| Barbed | per lb. 21c @ 22c |
| Butter, Tub | 16 @ 19c |
| Fence— | |
| Polished | per 100 lbs. \$5 45 |
| Galvanized | 6 15 |
| Netting. | |
| Galvanized | per 100 lbs. \$6 54 |
| Wrought. | |
| Wrought Staples, Hasps and | |
| Staples, Hasps, Hooks and | |
| Staples, and Hooks and | |
| Staples | 50 & 10% |
| Extra heavy | 35% |

STONES.

| | |
|-----------------|-------------------|
| Axe. | |
| Hindustan | per lb. New Nets |
| More Grite | " |
| Washita | " |
| Emery. | |
| No. 126 | per doz. New Nets |
| Oil Mounted. | |
| Arkansas Hard | |
| No. 7 | per doz. New Nets |
| Arkansas Soft. | " |
| Washita No. 717 | " |
| Oil—Unmounted. | |
| Arkansas Hard | per lb. New Nets |
| Arkansas Soft. | " |
| Lilly White | " |
| Queer Creek | " |
| Washita | " |
| Seythe. | |
| Black Diamond | per gro. New Nets |
| Crescent | " |
| Green Mountain | " |
| LaMolle | " |
| Extra Quinine | " |
| bog | " |
| Red End | " |

STOPS, BENCH.

| | |
|---------------------|------------------|
| No. 10 Morrill pat- | |
| tern | per doz. \$11 00 |
| No. 11 Stearns pat- | |
| tern | 10 00 |
| No. 15 Smith pat- | |
| tern | 7 00 |

STOPPERS, FLUE

| | |
|------------------|-----------------|
| Common | per doz. \$1 10 |
| Gem. No. 1 | 1 10 |
| Gem. flat, No. 3 | 1 00 |

STRETCHERS.

| | |
|----------------|-----------------|
| Carpet. | |
| Bullard's | per doz. \$3 90 |
| Excelsior | 5 25 |
| Malleable Iron | 70 |
| Perfection | 6 30 |
| King | 4 50 |

| | |
|---------------------|---------------|
| Wire. | |
| O. S. Elwood, No. 1 | per doz. Nets |
| O. S. Elwood, No. 2 | " |

SWIVELS

| | |
|----------------|----------------|
| Malleable Iron | per lb. \$0 10 |
| Wrought Steel | per gro. 4 50 |

TACKS.

| | |
|----------------------------------|---------|
| Bill Posters' 6-oz. 25-lb. boxes | |
| per lb | 15c |
| Upholsterers' 6-oz., 25-lb. | |
| boxes, per lb. | 15 1/2c |

TAPES, MEASURING.

| | |
|-------------|------------|
| Asses' Skin | List & 40% |
|-------------|------------|

THERMOMETERS.

| | |
|------------|-----------------------|
| Tin Case | per doz. 80c & \$1 25 |
| Wood Backs | 2 00 & 12 00 |
| Glass | 12 00 |

TIES.

| | |
|------------------------|----------|
| Bale. | |
| Single Loop, carload | |
| lots | 75 & 7% |
| Single Loop, less than | |
| car lots | 70 & 15% |

TRAPS.

| | |
|------------------------|-----------|
| Mouse and Rat. | Per Gross |
| Sure Catch Mouse Traps | \$2 10 |
| Vim Mouse Traps | 2 10 |
| Short Stop Mouse Traps | 1 80 |
| Wood Choker Mouse | |
| Traps, 4 hole | 10 25 |

| | |
|---------------------------------|-----------------|
| Sure Catch Rat Traps | Per Doz. \$0 90 |
| Dead Easy Rat Traps | 1 00 |
| Packed in One Bushel Band Stave | |
| Baskets | |

| | |
|--------------------------|-----------------|
| Sure Catch Mouse Traps | List per Bushel |
| (360 Traps) | \$5 25 |
| Short Stop Mouse Traps | |
| (360 Traps) | 4 50 |
| Sure Catch Rat Traps (54 | |
| Traps) | 3 60 |
| Short Stop Rat Traps (54 | |
| Traps) | 3 15 |

| | |
|-------------------------------|------------------|
| Assorted Mouse and Rat Traps. | List per Bushel. |
| Sure Catch (216 Mouse | |
| Traps and 26 Rat Traps) | \$4 90 |
| Short Stop (216 Mouse | |
| Traps and 26 Rat Traps) | 4 25 |

TROWELS.

| | |
|--------------|---------|
| Cement. | |
| Atkins No. 6 | \$19 50 |
| No. 9 | 25 50 |

TWINE.

| | |
|---------------------------|-------------|
| White Cotton. | |
| Eureka, 4-ply | per lb. 30c |
| Jute. | |
| 3-ply and 6-ply Bale Lots | 22 1/2c |

VALLEY.

| | |
|----------------------|-----|
| Milcor | |
| Galv. formed or roll | 60% |

VENTILATORS.

| | |
|----------|-----------|
| Standard | 30 to 40% |
|----------|-----------|

VICES.

| | |
|----------------------------|---------------------|
| No. 700 Hand. | |
| Inches | 4 1/2 5 5 1/2 |
| Doz. | \$11 15 13 00 14 85 |
| No. 701. | In. 4 5 6 |
| Doz. | \$11 15 13 00 16 70 |
| No. 1, Genuine Wentworth. | |
| Noiseless Saw | per doz. 9 25 |
| No. 3, Genuine Wentworth. | |
| Noiseless Saw | per doz. 12 75 |
| No. 500, All Steel Folding | |
| Saw | per doz. 16 00 |

WASHERS.

| | |
|-------------------------------------|--------|
| Over 1/2 in. barrel lots | |
| per 100 lbs. | \$6 25 |
| Iron and Steel. | |
| In. 5/16 3/4 1 1/4 1 3/4 2 | |
| 10 1/2c 9 1/2c 7 1/2c 7 1/2c 2 5/8c | |

WEATHER STRIPS.

| | |
|----------------------|--------|
| Metallic Stitched. | |
| 1/2 in., per 100 ft. | \$1 80 |
| 3/4 in., per 100 ft. | 2 20 |
| Wood and Felt. | |
| 1/2 in., per 100 ft. | \$1 56 |
| 3/4 in., per 100 ft. | 1 56 |

WEIGHTS.

| | |
|-----------------------|--------------|
| Hitching | per lb. Nets |
| Sash—f. o. b. Chicago | |
| Smaller lots, per ton | \$47 50 |

WHEEL BARROWS.

| | |
|-------------------------|--------|
| Common Wood Tray | \$3 75 |
| Steel Tray, Competition | 4 50 |
| Steel leg. garden | 6 00 |

WIRE.

| | |
|-------------------------------|--------|
| Plain annealed wire, No. 8 | |
| per 100 lbs. | \$3 70 |
| Galvanized barb wire, per | |
| 100 lbs. | 4 10 |
| Wire cloth—Black painted, | |
| 12-mesh, per 100 sq. ft. | 2 35 |
| Cattle Wire—galvanized | |
| catch weight spool, per | |
| 100 lbs. | 4 60 |
| Galvanized Hog Wire, 80 rod | |
| spool, per spool | 3 98 |
| Galvanized plain wire, No. 9, | |
| per 100 lbs. | 4 15 |
| Stove Pipe, per stone | 1 10 |

WOOD FACES.

50% off list.

WRENCHES.

| | |
|--------------------------|--------|
| Coes Steel Handle, 6-in. | 40-10% |
| " " " 8-in. | 40-10% |
| " " " 10-in. | 40-10% |
| " " " 12-in. | 40-10% |
| Coes Knife-Handle, 6-in. | 40-10% |
| " " " 8-in. | 40-10% |
| " " " 10-in. | 40-10% |
| " " " 12-in. | 40-10% |
| Coes All Patterns | 40-10% |

WRINGERS.

| | |
|--------------------|------------------|
| No. 790, Guarantee | per doz. \$49 50 |
| No. 770, Bicycle | 47 00 |
| No. 670, Domestic | 43 50 |
| No. 110, Brighton | 39 00 |
| No. 750, Guarantee | 51 00 |
| No. 740, Bicycle | 48 50 |
| No. 22, Pioneer | 35 50 |
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